MAY, 1875.

THE
AMERICAN
FARMER
ESTABLISHED
1819
PUBLISHED
BY
SAM'L SANDS & SON
BALTIMORE MD

TO FARMERS AND GARDENERS.

$1,000 REWARD TO ANY ONE that can find by analysis or otherwise any adulteration whatever in our manufacture of Bone.

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The First Manufacturer in America that sold GROUND BONES by WEIGHT.

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BONE MEAL

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CHEMICAL LABORATORY OF P. B. WILSON, No. 32 SECOND STREET, BALTIMORE, July 30, 1873.

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Organic Matter	40.12 per cent.
Containing—Nitrogen, 4.08; Ammonia 4.95.	
Inorganic Matter	56.14 per cent.
Containing Phosphoric Acid	24.52 per cent.
Containing Bone Phosphate of Lime	53.52 per cent.
Insoluble Matter	2 51 per cent.

This is the BEST SAMPLE OF BONE DUST I CAN FIND IN THE MARKET, and call your especial attention to the LARGE PERCENTAGES OF VALUABLE MATERIAL for the improvement of the soil, and to the SMALL PERCENTAGES of moisture and insoluble matter

Respectfully, etc, P. B. WILSON, *Analytical and Consulting Chemist.*

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All Kinds of Fertilizers, &c.

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Agricultural Implements and Machinery,
Portable Steam Engines and Boilers,
Saw and Grist Mills, &c.,
Wagons, Carriages, Buggies, &c.

Likewise

FRUIT AND ORNAMENTAL TREES, SHRUBS AND PLANTS; FIELD, GARDEN AND FLOWER SEEDS.

ALL KINDS OF FARM SUPPLIES.

We also offer to select and have shipped

IMPROVED LIVE STOCK,

CATTLE, HORSES, SHEEP, SWINE and POULTRY. In this Department we buy only from breeders of established reputation of the several kinds, and cannot undertake to procure ordinary farm stock, such as draft horses. milch cows, &c. In this vicinity great attention is paid to some particular breeds of stock, and specimens can be had here which are nowhere to be surpassed.

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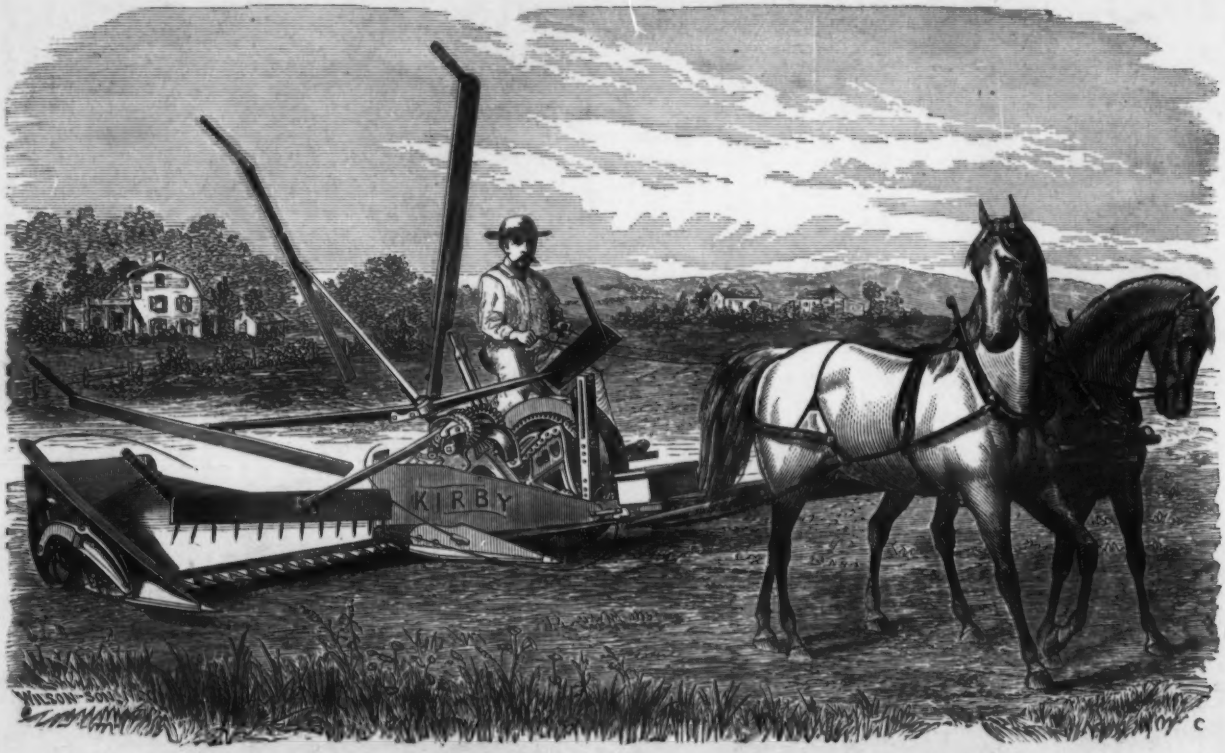

The Celebrated Kirby Reaper and Mower, with Baltimore Self-Rake.

First Prize, Medal of Progress, at Vienna Exposition, 1873.

See advertisement of J. C. DURBOROW, Manager.

THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. IV.—No. 5.] MAY, 1875. [NEW SERIES.

Tobacco.

The Outlook for America, for 1875.

The pamphlet of Mr. John Ott, the secretary of the Southern Fertilizing Co., of Richmond, heretofore referred to, contains some very interesting and valuable information, presented in a form not only attractive but bearing every mark of reliability.

The author says the extraordinary advance in the price of leaf tobacco within the past year indicates a shortness of crop altogether greater than any within our experience, and also *how remarkably close consumption keeps pace with production* throughout the world. A short crop in a single country, in any one year, in respect of any other staple crop, has failed thus far to authorize anything like the rate of advance made and maintained with tobacco.

It is found from the reports of the U. S. Bureau of Statistics that the average yearly exportation of "domestic" leaf tobacco is 245,674,369 lbs., and the average annual product for four years of leaf tobacco manufactured, exclusive of that used in the manufacture of cigars, is 123,880,766 pounds. The amount of that used in cigars is 47,598,443, which added to the first sum gives 171,479,209 pounds as the average aggregate quantity of leaf tobacco manufactured during the last four fiscal years.

The quantity of manufactured tobacco exported during the last four fiscal years averages 10,283,734 pounds. The exportation of cigars and smoking tobacco is merely nominal. From these figures it is seen that the average annual demand —foreign and domestic—of the world for American tobacco is 417,153,578 pounds.

Taking the estimate made by the largest dealers in the West, the product of "*Western*" tobacco in hogsheads, for the last three years, is as follows, taking the average weight of the hogshead at 1,500 pounds:

		1871–'72.	1872–'73.	1873–'74.
Kentucky.....	hhds.	66,000	80,000	85,000
Tennessee.....	"	20,000	20,000	20,000
Indiana.....	"	33,000	30,000	30,000
Illinois.....	"	10 000	15,000	15,000
Missouri.....	"	15,000	25,000	25,000
	"	144,000	170,000	175,000

Of the crop marketed in Virginia, which includes the bulk of that raised in North Carolina, the estimate for 1871–'72 was 53,000 hogsheads; in 1872–'73, 63,000 hogsheads; in 1873–'74, 62,000 hogsheads.

The average of "Western" is 163,000, and of "Virginia" 59,333 hogsheads. For the crop of 1874–'75, the most favorable estimates thus far made are: Western 50,000; Virginia 30,000; Maryland 26,000; Ohio 7,000 hogsheads,—total crop of 1874–'75, 113,000 hogsheads. This is giving nearly one-third of a crop to Western (some put it as low as an eighth,) half a crop to Virginia, an average crop to Maryland and a third of a crop to Ohio.

So we have 113,000 hogsheads in 1874–'75, as against 275,000 in 1873–'74, and 270,000 in 1872–'73,—or a deficiency of 159,000 hogsheads.

Accurate inquiry shows the stocks on hand in Europe and America, Nov. 1, 1874, to be.....		159,000
Add crop of this year, 1874–'75.....		113,000
Total supply.....		272,000
Which, reduced to pounds, is.....		408,000,000
Deduct average annual requirement, as shown, in round numbers, lbs....	417,000,000	
Less seed leaf (for cigars,) consumed and expt'd lbs	47,500,000	
		369,500,000
PROBABLE STOCK ON HAND (other than "Seed Leaf") Nov. 1st, 1875, pounds..		38,500,000

Or 25,666 hogsheads, *a deficit*, as compared with November 1st, 1874, of 133,334 hogsheads, or say 200,000,000 of pounds.

Now, argues the author, with the dense population of Europe, the struggle for life involves an economy unknown to American experience, and an article of luxury like tobacco may, therefore, reach a point beyond the ability of the people to use it. We have seen how largely we are indebted to Europe for the consumption of our product, but in the altered condition in American tobacco, resulting from this year's crop, resort will be had to substitutes for it. Besides this on account of the present high prices increased production will be stimulated in Germany and in other countries heretofore our best customers.

While giving due weight to all contingencies, and also to the element of speculation necessarily involved, in view of the unusually large deficiency to be provided for, and the probable fact that

our domestic demand will require the entire product of this year, there seems nothing to show why prices will not be very remunerative on the production of a very full crop next year, and why good prices will not extend also to the crop planted in 1876.

With so gratifying a prospect, the author expresses the hope that *no planter will attempt too much.* HE MUST FIRST BE SURE OF FOOD FOR HIS FAMILY AND STOCK, and not run the risk of consuming his substance by dependence, in this respect, upon outside help, as has been too often the case with our people growing cotton.

As confirmatory of the views expressed, a letter is presented from Mr. Alex. Bramwell Bremner, of London, probably the oldest and largest tobacco operator in England, who fully endorses the position taken, but who says, that, while our planters are bound to repay themselves for their short crops, such very high prices as now exist are against their ultimate interest, because they tend to encourage the growth of other sorts, and, at the same time, to improve them. Hungarian, for instance, is enormously improved in twenty years. East India is coming forward freely, and there are inquiries for it from France, where the Regie require it to lower their cost. If they begin this they will probably continue to use it as a mixture, and if this common, poor stuff does get taken up by the Regies, *its very low price will tell on the lower-priced "Virginia" in a few years.* THERE IS NO SUBSTITUTE, OF COURSE, FOR FINE VIRGINIA TOBACCO, but the inferior may be supplanted, and the present rise in price may prove injurious when the crop is so large as to again need European markets for its consumption.

So, adds Mr. Ott, the fruit of our expectations, on this spring's planting, must come out of a crop of FINE QUALITY, and not out of one of *all sorts.* We cannot but heed Mr. Bremner's injunction, when America is indebted to Europe for the purchase of one-half of our productions.

An extract is also given from the Annual Review of Messrs. J. S. Gous & Son, an extensive tobacco house of New York, who say, that, with a favorable season, and stimulated by last year's prices, the crop this season will probably be the largest ever known, but that, notwithstanding, they do not anticipate more than a very gradual decline from present prices, on account of the markets of both continents being so bare of stock. On the other hand, they deem it desirable that prices for common, light grades, for which substitutes in other growths are most easily found, should not rule above reasonable prices, "*in order not to close even temporarily our outlets for these grades.*"

In addition to the examination of the probable course of the market, Mr. Ott's pamphlet presents a summary of the tobacco product of the globe, with statistical tables and suggestive explanations, some views on the subject of Farm Labor, &c., &c.,—all of which have been prepared with much accuracy and care, but to which our limits will not permit us to refer in detail.

☞Since the above was in type, the cold snap of 20th ult. has undoubtedly affected the tobacco prospect—to what extent it may interfere with the above anticipations for the yield of 1875, is yet to be determined.

Lucerne—Its Value for the South.

We give from the *Manual of the Grasses*, by Mr. Howard, elsewhere noticed, his account of this plant, the importance of which as a forage plant has frequently been urged in the pages of the *American Farmer*, editorially and by our correspondents:

As a forage plant at the South, lucerne is very far superior to all others. It is used for two purposes. First, for feeding green or soiling; used in this way, it is best to cut the lucerne a day in advance, so as to feed it in a wilted state. *It must never be pastured.* Live stock pasturing it, bite out the crowns of the plants and kill them. When fed green, it may be given to horses, cattle and hogs. Horses fed upon it when not at work need no grain—when at work one good feed of grain a day is sufficient. Hogs will keep in good order on green lucerne cut and thrown to them.

Lucerne hay is extremely nutritious, and is relished by horses, cattle and sheep. So far as the observation of the writer extends, it is preferred by the domestic animals to any other kind of hay.

The product of lucerne is enormous. Five tons of excellent hay may be cut from one acre of ground planted in lucerne. It is estimated that fodder, green and dry, may be obtained from an acre of lucerne for the support of five horses during the entire year—this includes the great bulk of green food during the spring, summer and autumn.

In this latitude lucerne is not green during the months of December, January, and part of February. In the low country it would probably be green all the year. In this section it commences its growth during the latter part of February, and gives its first cutting early in April, even before the wild grass begins to spring. It is ready to cut fully a month in advance of red clover. The rapidity of its growth is excelled only by asparagus.

The root is perennial, lasting ten or fifteen, or perhaps more years. These roots become as large as small-sized carrots. Five acres of lucerne on this farm were destroyed during the war by being grazed by Sherman's horses and cattle. After that, the ground was left riddled with holes, giving it the appearance of a locust year. The succeeding crop of corn was very heavy. This might have been expected in view of the fact stated by Ville, that lucerne absorbs more ammonia from the atmosphere than any other plant whatsoever. This is a point, however, of little practical utility, as no one having a field of lucerne would plow it up for any other crop. Great care must be taken in saving lucerne hay. If it is too much exposed to a hot sun, the leaves crumble and fall off. The prevention is to put the lucerne cut in the morning into small cocks in the afternoon, open them for a little while the next morning after the dew is off, and haul immediately to the barn. These cocks should be not more than six feet tall, and as small round as can be made to stand. The hay is cured as it were in the shade, the wind or air circulating through the cocks.

Whenever lucerne turns yellow, it should be mowed, no matter if it has not attained its full height. The yellow color is an evidence of disease, or the ravages of some small insect. Lucerne should be cut as soon as it is in blossom; after this the stems become hard and woody. It does not reach perfection until the third year. The yield is, however, heavy the first year as compared with other forage plants.

Notwithstanding all precautions, some weeds and crab-grass will appear the first year. These must be repeatedly mowed, so as to prevent their going to seed. If they are annuals they will give you no trouble after the first year.

The ground designed for lucerne should be made as clean as possible. In its first year it is delicate, and in very rich ground is liable to be smothered by weeds, and especially crab-grass. All perennial weeds, as dock, plantain, thorn-apple—or in the vernacular, "Tread soft"—should be carefully exterminated. Either Bermuda or blue grass, or in fact any stoloniferous perennial grass would be very hurtful to it. In view of this necessity, a cleansing crop should precede it, as cotton or turnips, fed on the ground by sheep.

As the taproots of lucerne penetrate to a great depth, the soil should be plowed to a great depth. A heavy two-horse plough should be followed by a two-horse subsoil plough. It would be well to cross-plough the same way. The surface should then be repeatedly harrowed until it is perfectly free from lumps.

Lucerne seems to be indifferent to the texture of the soil, provided it be dry and sufficiently rich. The writer has seen it grow with luxuriance on the sands of the seaboard, and the clay of the blue lime-stone country. But two things are required, the soil must be dry and rich.

Too much pains cannot be taken with ground to be sown in lucerne, as to cleanness, fertility and depth of ploughing. It would be best for any one who does not design to take these pains, to let it alone. On land of ordinary fertility and cleanness, lucerne would be very profitless.

If barn-yard manure be used, it should be perfectly rotted, so as to contain no seeds of weeds. If it be not rotted, it is best to use one of the commercial manures. One should be selected which contains a small amount of ammonia, and a large percentage of phosphate and potash. One thousand pounds of this manure to an acre would not be at all too much. This should be thoroughly harrowed in before the seed is sown. A top dressing should be given every third year.

Whether the seed should be sown broadcast or in drill, depends on the condition of the ground as to cleanness. If the ground be perfectly clean, broadcast sowing is the cheapest and best. If the ground in two or three years becomes hard on the surface, it can be harrowed when the top dressing is applied.

If the ground be foul, the seed should be sown in drills, about twelve inches apart. A coulter or very narrow scooter-plough can be run between the rows as often as may seem necessary.

About ten pounds of seed should be sown to the acre. This seed now sells in New York at fifty cents per pound, making the cost of seed for an acre five dollars. In large quantity it can probably be bought at a cheaper rate. When sowed, the seed should be brushed in, or rolled. The covering should be very light; in fact if the seed be sown before a rain or during a drizzle, no covering is necessary.

Here it may be proper to remark in connection with the sowing of all small seeds, whether of forage plants or grasses, that if they are covered an inch deep, vegetation is doubtful, and if a clod is turned over upon them they will not vegetate at all. The seedsman is often blamed when the fault is in too deep covering by the farmer.

It may be said that the process of preparation of land for lucerne is very expensive. That is true. But let us compare this expense and the results. Suppose an acre of land to be worth $10, and the cost of plowing, harrowing, manure and seed be $40, in all $50. Five tons of lucerne hay, if it be sold at $20 per ton, is $100,—a very good interest on $50. In most localities where there is a market for hay, lucerne would demand upwards of $30 per ton. It should also be remembered that the results of the expenditure last for a term of years, and not for one year, as in the case of corn or cotton or grain crops.

Great efforts have been made to introduce lucerne into England. Large premiums for a series of years have been offered by the Royal Agricultural Society. But the soil or climate, or both, are unsuited to it.

Efforts have been made to introduce it in the Northern States of this country, but also without success. The winters are too severe.

Lucerne is a child of the sun. It is a plant of a warm climate. Its long taproots render it comparatively insensible to drought. It grows as well at the South as it does in France or Italy. Yet it may be doubted if there are ten acres of lucerne on any one farm at the South. While we have a plant which yields hay of a better quality and double in quantity, as compared with any grass grown at the North, our railroads are groaning under the weight of Northern hay.

In our present condition it can hardly be expected that farmers will lay down much land in lucerne, on account of its expense, unless it be where there is a ready market for hay. But every farmer should have an acre or more of lucerne near his stable, according to the number of his horses. In no other way can he provide for them a fodder so cheap and nutritious. The practice is growing among persons living in our villages, to have a clover lot to provide hay, or cut green food for their cows and horses. Such persons will find lucerne to be much more valuable than clover, both as to quantity and quality of the food produced.

Much space has been devoted to this plant because it is so little known among our farmers, and because its cultivation would be of such great benefit to them.

The *New England Farmer*, discussing Hungarian grass and millet, says: "After many trials of both, we have no choice between the two that could not be decided by a difference of a single dime in the cost of a bushel of seed—the difference between them is of no practical amount."

Professor Voelcker on Manures.

In a lecture delivered before an Agricultural Society in England a year or two ago, Prof. Voelcker, the distinguished chemist of the Royal Agricultural Society, expressed the following views on home-made and commercial fertilizers:

The subject of artificial manures was of annually increasing importance, for where five or ten years ago men spent tens of pounds in the purchase of artificial manures they now spend their hundreds, and those who spent their hundreds now spend their thousands. To see how important the question was becoming they need only look at the many manufactories of artificial manures which were springing up everywhere, and at the keen competition which existed between rival dealers; indeed, the dealer in artificial manure had become one of the greatest bores in the market. They could not go into a market without being pestered by some agent for an artificial manure manufacturer, who praised his wares often to the detriment of those of his rivals. There were now makers who produced from 30,000 to 40,000 tons per annum; others 20,000 and 10,0 0, and some 1,000 to 500. Very large sums were invested in the manufacture, and it was unnecessary to say that large sums were paid annually for these manures by agriculturists who must, in the present day, if they would successfully cultivate their land, spend a good deal of money for the purchase of these manures; for the present state of agriculture necessitated the application to the soil of more fertilizing agents than could be conveniently obtained from farm-yard manure. Seeing that so large an amount was spent on these manures, it was of the greatest importance to the farmer that he should lay out his money to the greatest advantage, and how could he do that unless he possessed some knowledge of the fertilizing constituents which enter into the composition of the manures offered for sale? The time was long past when the fertilizing powers of certain materials were ascribed to a certain unknown force, and they now knew pretty well on what substance the value—both economical or money value, and the fertilizing or practical value—of the manures depended. It was not by any process of cooking or of turning over that they could obtain good manures; they could only secure them by incorporating the right materials. There was a time when a mistaken notion prevailed that farm-yard manure should be turned three times, and that it got better every time. Now there was, as was generally the case, a little truth mixed up with the error involved in that idea. To turn manure helped to make it rotten, and rotten manure was better than fresh, bulk for bulk; but by its standing exposed it was apt to lose a great deal of its fertilizing properties, and the more economical plan was to cart the dung to the field as soon as possible, and then they avoided the risk of losing a portion of its valuable properties by evaporation or by drainage. They knew well that the value of animal manure depended very much upon what they put into the animal's belly, and that it would be very different if they used plenty of oilcake, or other rich food, than if they gave their stock an insufficient amount of poor food. So with artificial manures. Their value depended on the materials put into them. They might concoct a manure of the sewage matter of London, or Birmingham, or Derby, by sifting out its solid parts, but its fertilizing value would be very little, and it would largely consist of soil, clay, or sand, with some organic matter of no great value. They must not expect to get much fertilizing matter from town sewage, unless they incorporate with it a good deal of Peruvian guano, or good bone dust, or nitrate of soda. The fertilizing value of manures depend mainly on the nitrogenous matters, phosphates, and salts of potash they contained. Nitrogenous matter was derived from animals, and existed largely in blood, flesh, skin, hair, and other refuse animal matters. As a rule ammoniacal salts produced bulk, and phosphates produced quality, and his aim would be to get both.

Prof. Mallet on Fertilizers.

In his reply to a correspondent making some inquiries on artificial manures, Prof. Mallet, in a letter in the *Planter and Farmer*, touches upon the views and theories of some distinguished chemists, and gives some suggestions which our readers may like to see.

Concerning M. Ville's "complete manure," which his interrogator seems to think will *certainly produce a fine crop from any land, however poor*, he says: "to some extent M. Ville himself, and to a very large extent those who have copied from and quoted him, are responsible for disseminating the false idea that such a thing can possibly be produced as a single 'complete manure,' by the aid of which farmers everywhere, under the most diverse circumstances, may secure abundant harvests, and with profit; such a notion is just as chimerical as that of the 'philosopher's stone,' or the 'fountain of perpetual youth.' It is, of course, quite possible to produce such a mixture of fertilizing substances as shall enable by its use fine crops to be raised upon a bed of absolute sand, *but at a cost far exceeding that required if we take advantage of what ordinary soils, such as can be had in abundance, already contain, and aim at carefully ascertaining and remedying those deficiencies only which are found to exist therein.*

The statement made by Mr. Lawes, a year or so ago, in a letter to Mr. Saltonstall, and published at the time in the *Farmer*, that "the only two substances really required in artificial manures are nitrogen and phosphate of lime," must be taken, he says, to imply merely that those two are, for most soils, and for many of the most important crops, the *chief* substances needed, there being abundant evidence to show that the statement is not sweepingly or universally true.

Referring to M. Ville's and Mr. Lawes' suggestions of the free use of nitrate of soda, he says it is "well to remark that nitrogen in the form of nitrates is far more liable to be washed out of the soils by heavy rains than when supplied in the form of ammonia or decaying organic matter, and hence nitrate of soda involves risk of

loss if distributed in the soil much in advance of the time of active growth of the crop."

The Professor disposes of Liebig's mineral theory by saying that "there is no longer room for doubt that Liebig, whose eminent services in establishing the importance of mineral food to plants deserves the most grateful recollection, allowed himself to ignore to too great an extent the value at the same time of increasing the natural supply of nitrogen derived from the air; nothing is better ascertained than the profitableness to the farmer of a judicious—not a spendthrift—use of this most costly ingredient of artificial fertilizers. But by all means should the resources of nature be drawn upon as far as possible, and this is certainly not attended to so long as the flagrant waste goes on of the nitrogenous manure produced by the animals of the farm, which we see almost universal in Virginia."

On the subject of making artificial fertilizers on the farm, Prof. M. says: "if farmers are to prepare their own mixed fertilizers, they ought to become well and practically acquainted with the nature of the material they use, otherwise they are just as liable to be cheated in the purchase of these materials as in that of fully prepared manure, and with the additional drawback that they have not the same mechanical facilities as the special manufacturers, for easily and thoroughly mixing. Above all, the farmer needs to study the chemistry of soils and crops so far as to enable him to form an intelligent idea for himself of what he really wants, instead of depending implicitly upon the prescriptions given him by others."

Recent Discoveries of Guano in Peru.

Professor Mallet, of the University of Virginia, credits the reports made of these new deposits, which he says are fully confirmed by the results of two independent surveys. He writes the *Southern Planter* that the engineer of the Peruvian government, M. Thierry, estimates the amount already surveyed at 7,500,000 cubic metres, equal to 9,720,000 cubic yards, and the officers of H. B. M. ship "Petrel" report that this estimate is not too large. Since the guano from the lower portion of the deposit is dense enough to weigh 1¼ ton to the cubic metre, the entire amount may be set down at not less than 10,000,000 tons,—enough to load a vessel of 300 tons every working day in the year for one hundred years to come.

Specimens analyzed by M. Ramondi are said to have yielded more phosphoric acid and ammonia than the best of the old Chincha Island guano—while samples brought to London did not give as high average results on analysis, ranging from 11.01 to 16.65 per cent. of phosphoric acid, and from 6.55 to 15.08 per cent. of nitrogen (equivalent to 7.95 to 18.31 per cent. ammonia.) The new guano is reported as for the most part in excellent condition, dry and free from lumps.

In view of the entire exhaustion of the Chincha Islands, and the limited remaining supply to be expected from the Guanape Isles, this discovery is welcome news to the agricultural community.

The Scape-Goat of the Southern Planter.

Under the above title we find the annexed article in the *Rural Carolinian* for April, it being given as introductory to one on the management of negro labor which appeared in the *American Farmer* for February, from the pen of Mr. Holman, of Cumberland, Va.:

"Since the time of Moses and Aaron, scape-goats have always been in demand and are generally found when wanted. We don't like to carry the burdens of our own sins and shortcomings. Some broader shoulders must be made to "tote" the irksome load.

If "farming don't pay;" if the cotton crop be too large and prices too low, or if the yield be too small to meet the expense of making it; if the corn "fires" and the potatoes are few and small, what is the cause of the trouble? Not bad management and lack of economy, not want of manure and rational cultivation, but "unreliable negro labor."

If we are slow to adopt improved systems of cultivation and labor-saving implements, and to diversify our industry by means of the small grains, the grasses, cattle and sheep; if we allow our fences to rot down unrepaired, our farm buildings to become dilapidated, and our implements to lie in the fence corners exposed to the weather, who is to blame? The semi-barbarous, lazy, thriftless freedman, of course. He will not learn new ways; he can't be made to use improved implements; he will not take care of his employer's property. "Unreliable negro labor!"

Here is our scape-goat; and never did the poor quadruped on whom the lot fell, in Old Testament times, to bear the sins of the people into the wilderness, carry a heavier load.

Debt, liens, twenty per cent. interest, buying at retail and at the highest credit prices, and selling at wholesale and at the lowest prices, wastefulness, indolence, unbusiness-like management, and poor, behind-the-age farming—oh no! Unreliable negro labor. That is what is the matter!

Well, we are not blind to the vices and faults of the negro, nor do we forget that his opportunities for improvement have not been the best, nor the influences which have been brought to bear upon him, since the war, the most favorable; but let us do him justice. He has his virtues as well as his vices, and we must strive to draw out and strengthen his good qualities for our own benefit, as well as his own.

Negro labor *is* unreliable, as it is too generally managed. It is doubtless more so in some parts of the country than in others, but let those who are ascribing to it all their woes, pause and ask themselves how it happens that some planters and farmers are prospering—making money every year with this same negro labor, and finding it in every way as satisfactory as labor is found anywhere.

We have cases now in mind of cotton planters, rice planters and truck farmers, who are making use of this labor profitably and pleasantly, and desiring no change. If Mr. Brown finds negro labor efficient and makes it profitable, why can not his neighbor, Mr. Jones? Depend upon it,

the trouble is, in part at least, with Jones himself. "There's more in the man than in the land," and there is more in the employer than in the laborer. Some employers are "unreliable," and such are pretty sure to have unreliable labor; so, inefficient employers will inevitably find their laborers, whether white or black, inefficient, and lazy ones will be swindled out of the wages paid, by still lazier hands.

Our present negro labor is by no means the best imaginable labor, but it is the best we can get, and we shall never have any better till we make it out of the materials before us. White labor we are not likely to get, to any great extent, and when we do get it, we shall find it fully as unreliable as the labor we have. Those who find the one inefficient will find the other not less so.

When we shall, by concentrating our operations—making one acre produce as much as we now get from four—by giving more attention to those branches of husbandry which require less labor, and by stricter methods of business, and a closer personal attention to our affairs, become more independent of the laborer; when we shall have come down to a cash basis, however small; when we shall have made up our minds to put our own hands to the plough, if necessary, and, at all events, to be constantly in the field with our laborers; when we shall treat them kindly and considerately, manage them firmly, and pay them promptly and with cash, we shall have less to say about "unreliable negro labor," and shall find ourselves on the road to real prosperity.

It was our intention to introduce here some judicious hints on the management of negro labor, from the pen of a correspondent of the *American Farmer*, but this article is sufficiently long, and we will reserve the paper in question for another occasion."

Experiments with Fertilizers.

In our April No., page 126, we gave a very interesting extract from a report on Fertilizers, made to the Board of Agriculture of Masachusetts by Prof. Stockbridge, of the Agricultural College. An omission was noted at the time but could not be supplied is now made from the full report subsequently received, and will be found of peculiar value if read in connection with the extract alluded to.

The Professors' experiments were to determine the per centage of certain fertilizing ingredients to produce the additional quantity of corn, wheat, &c., which the experiments aimed at. The following is what is said upon this point:

"In the experiments alluded to, these elements (phosphoric acid, nitrogen and potash salts) have been the ones used, and regard has been had to their contents in the whole plant, for the composition of stalks, straw and grain, and tops and tubers are very disimilar. For the production of twenty-five bushels of Indian corn and its average natural proportion of stalks, there have been used thirty-five pounds of nirogen, thirty-seven pounds of potash and fifteen pounds of phosphoric acid. To produce one hundred bushels of potatoes, and their average natural proportion of tops, use has been made of twenty-five pounds of nitrogen, thirty-nine pounds of potash and twelve pounds of phosphoric acid."

Correspondence.

On The Cultivation of Corn.

To the Editors of the American Farmer:

In compliance with my promise, I will give you my mode of cultivating corn, which I will preface by referring the reader to my communication on preparing the ground and planting the corn, on page 136 of the April number of the *American Farmer*, in which I ought to have stated that I invariably put six to eight grains to the hill. It is much easier to pull out than to put in, besides the replanting is generally of but little value. When the corn is up and grown to four or five blades, I run the Thomas smoothing harrow loaded, the same direction the rows were laid off. In about ten days or two weeks, I cross harrow, following the harrow each time with hoes to straighten up the plants which get dragged down by the harrow, which are not many, and very few get pulled up. When the plants get six or eight inches high, I run a furrow on each side of the row, close to the corn, with a one-horse furrow plow, followed with a double-shovel plow once in a row. This makes a good hill and supports the plants against heavy winds, and is all the hill it should ever have. This work I follow up as often as occasion may require, with the *lightest and dullest* cultivators I can get, being particular to get as near to the plants as possible, *always running the same direction of the rows for planting.* In other words never crossing the hills thrown to the plants with the furrow plow and double shovel. In *stiff soil*, the ground should *never be allowed to bake*, and if weeds or grass should spring up near the plants they should be eradicated with the hoe, as often as they make their appearance, never allowing them to grow to the height of half an inch. I will here remark that in my opinion, the hoe is but seldom used as efficiently and promptly as it should be, *when required, in the cultivation of corn.* Just think of the folly of keeping the middle of the rows clean, and allowing weeds and grass to grow close to the plants! By the practice of never cross cultivating a greater portion of the roots are left undisturbed. Every root that is cut, is *just that much taken away from the support of the plant.*

By keeping the ground mellow with the cultivator, never allowing it to go deeper than one or two inches if possible to prevent it, the roots will come within that distance of the surface. They will always come up as near to the surface as the cultivation will permit them.

What I have designated as "*very bad practice*," in my communication in your April number, is the practice of using the double-shovel plow the last two times of going through the corn, by which about one-half the roots are utterly destroyed, and irretrievable damage done to the crop. In my judgment it would be vastly better to dispense with these two last shovel plowings and let the grass and weeds have their full sway, than to cut up the roots at that critical stage of the growth of the crop. I have seen promising crops almost ruined by this bad practice, which I pursued myself until the last few years because that was "*the fashion*,"

which I think a little reflection, with the exercise of a little common sense, will convince any sensible man, after the subject is brought to his mind and duly considered, that it is very "bad practice." Old customs and old practices, however, are hard to overcome.

I will suggest to farmers, supposing many of them may be skeptics on the subject, to make an experiment by planting one-half of a field or lot in exact accordance with my method of preparing the ground, and planting and cultivating the crop, and the other half in the old way, being particular to cross cultivate and *especially to use the double-shovel at the last two plowings.*

If these two modes of planting and cultivating are strictly complied with, it is my deliberate opinion the product of my method will excel the other at least ten per cent. and probably more.

April, 1875. Very respectfully, L. W. G.

Note.—There is no other harrow that can be compared to Thomas' harrow, for the cultivation of young corn,—the teeth being so set as to *cut* the ground, instead of dragging up clods as other harrows do. It does not pull up the corn as other harrows will do if run directly over it. In every respect it does its work more effectually than it can possibly be done by any other harrow I know of. It loosens the ground immediately around the young plant, relieving it of its hidebound condition and gives it an early start in the world, and lastly but not least, it is sufficiently wide to do two rows at a time, and therefore works twice as fast as any other harrow, and consequently at half the cost.

L. W. G.

Concentration.

Messrs. Editors American Farmer:

Yes, if we would improve our agriculture, productiveness of the soil, and grow products in better quantity and quality, we must concentrate labor and fertilizers, regardless of the extent of our acreable possessions. Our aim must be to see how much labor, etc., we can economically apply to a single acre, rather than how many acres we can possibly spread it over; and I am pleased to see that this is coming to be understood and advocated more extensively as our real needs come to be better understood and applied.

Hitherto labor was of less cost and importance than at the present, consequently concentration was a matter little thought of and of less importance than at present it has come to be. The too general unreliability of hired help necessitates the constant supervision of the proprietor, as well as to labor with his own hands, and he comes to find that economy is a question to be closely studied; and it often happens that concentration is a matter of necessity rather than of choice, at first. Finding it to work more favorably than supposed, the necessity becomes a blessing rather than otherwise, as supposed before trial.

As an illustration of our point allow me to refer to the essay on Tobacco Culture, of our friend Major Ragland, as copied into the *Farmer* a few months since. Maj. R. finds that it pays to concentrate fertilizers and labor in the culture of tobacco, as the better quality and product enhances the profits. Not only will it be found true of this special crop, but all other farm crops will be largely benefited by concentrated culture thereon. I am told that our friends of the Middle and Southern States have large plantations and almost any amount of run-down or exhausted land; and asked what shall we do with it, we cannot sell it, etc. Circumstances no doubt are very trying, but any complaining will not amend them. The only way that seems practicable is to doff coat and go to work with a will, and on trial it will be found a wonderful ameliorator, if the labor, etc., is economically applied and concentrated. Let the balance of land rest and recuperate. W. W. WHITE.

Westborough, Mass.

The True Theory of Farming.—No. 6.

Messrs. Editors American Farmer:

In No. 5 of this series examples were given of two opposing theories on the use of fertilizers from supposed champions of opposite views.

Now suppose, if you can, that the opinions and arguments, there suggested as taught respectively by two learned controversialists, were, in fact, promulgated by one and the same Professor of Agricultural Science, at the same time and place, in the same lecture in the presence and for the instruction or edification of the same farmers.

Then, further, that the said farmers were exceedingly interested in the revelations, and agreed, in general, with the speaker; and that the esteem in which the lecture was held, secured its publication in different papers in England. Then, further, that at the instance and—as the writer of this believes—at the request of a learned Professor of Chemistry, who himself was then introducing a patented mode of rendering fertilizers *soluble*, its publication was procured across the great waters in the United States. Then, further, that at a meeting of an intelligent farmers' club in the United States—the order of the occasion being "Selected Readings,"—the foreman had read extracts from this specimen of floating oratory. Then, further, that, in reference to soluble phosphates, if not all, at least one member of this club agreed "entirely" with the lecturer, that "manufacturers are running their articles too much to immediate effect."

Now, this is all true according to the printed publications. These facts are not referred to as of rare occurrence. If they were the exception, instead of the rule, true science might go on without hinderance, and they would certainly be passed unnoticed by those endeavoring to establish true principles in agriculture.

Similar displays, however, daily relieve their authors of accumulated superabundance of learning; and oft secure the patronage of the enchanted farmer, by way of endowment, or incidental encouragement, as vainly sending his son to learn wisdom where folly is taught; or, if the author of the syren song be an itinerant, by way of a fee, to analyze a fertilizer, not to ascertain whether anything therein is soluble and therfore available to the plants, all this may be done by purchasing preparations of known value of reputable dealers, but to be informed of some in-

scrutable thing, about which the stupid manufacturers and all the world are ignorant, but wherein great danger lies—as whether it contains *too much* available matter, so as in a dry season to thirst the plants to death, and in a wet season to be "wholly washed away," or to supply the "matter at once in great abundance," stimulating the plants to riotous conduct, effecting general debauch, and resulting in total ruin by "forcing everything out of the land into the crop;" or to analyse a soil, of which the farmer would learn about as much practical and useful knowledge, and be far less likely to go astray by consulting ancient Grecian oracles.

In respect to those who cannot perceive its own internal refutation in this lecture, efforts to controvert it would be vain. Nor is it expected to establish any leading principles or laws of plant growth in the minds of those who believe everything that seems to come easier than truth, unless they can also believe the truth, which is a contradiction, and impossible.

But it may be well for a farmer seeking truth and some consistent principle of action, to ask himself whether it can be true, that only the soluble parts of manure are fitted for plant food, and therefore they are "always the most valuable portions," and yet that he should reject a manure because it contained more than sixteen to eighteen per cent. of soluble matter; or, in other words, when he wants a certain quantity of food fitted for the use of plants, he must by all means purchase a much larger quantity, even at the same price, *not* fitted for their use? And whether it can be true of *natural* manures, that the soluble parts are held by chemical means in the embrace of the general constituents of the most fertile soils on the globe ever undergoing changes in varied combination with water, clay and other ingredients of the soil, and ever thus, by dissolving, feeding the plants for thousands of years,—and yet when the same substances in soluble form are *artificially* mingled with the same ingredients of the same soil, that in a wet season, "there cannot be the slightest doubt that the rains will wash away the whole of the artificial manure which is soluble?"

And whether it can be true, that nitrate of soda, or any other equally soluble fertilizer, "is a useful manure"—and yet that in a dry season (which is the rule with us, and not the exception) its solubility would dry up the moisture of the "surrounding soil," creating an "internal thirst," like that prevailing when the rich man called in vain for a drop of water; and in a wet season would totally exhaust the soil of plant food?

And whether it can be true, that plants possess a nervous apparatus, brain, mind, &c., or analagous organs, subject to stimulation, excitement and intoxication; and if so, whether these organs are so much more delicate and more liable to the disease, or so different from those in the human organism, that no special poison is required to bring on the disordered state of intoxication, so that an article of food of prime necessity in building up the mass of the body, especially if presented in the only form in which it can be appropriated, will act on the plants in a manner precisely similar to an overdose of a mere stimulant on a human patient, or in any degree like a bottle of brandy on a man?

And whether it can be true, that nitrate of soda, or any known substance, will force "everything out of the land into the crop;" and if so, whether it can be true that five pounds of food for plants in the soil is worth more than the same amount of the same substances combined by vital and chemical forces with ninety-five pounds of atmospheric plant food in the form of plants; and if so, whether it is not better to leave the fixed food in the soil, or to dig it out, instead of converting it into plants?

And whether it is wiser to seed and cultivate ten years to convert the soil food necessary for a hundred bushels of plants, than to accomplish the same with one-tenth of the seed and labor?

And whether it can be true, that a smaller quantity is lost by washing away, sinking below the soil, evaporation, &c., in ten than in one year's cultivation.

And whether it can be true, that a farmer ought to apply a fertilizer in an insoluble state, because, if applied in that condition, it would require ten years to make a hundred bushels of plants, and, if applied in a soluble form, would not only convert itself, but would "force everything out of the soil into the plants" in one season?

And whether it can be true, that more plant food is required to produce 100 bushels of plants in one season, than to produce the same amount in ten seasons?

And whether it can be true, that a farmer would lose and the soil suffer more by the anomaly of all the plant food in his soil leaping up in the form of plants in one season, than by the usual course of mincing along for ten, fifty or a hundred years, suffering waste all the while from all causes of waste?

In short, whether it can be true, that to perpetuate fertility small instead of large crops should be encouraged?

All these questions are raised by the remarkably popular lecture under review, and they must all be answered in the affirmative to make anything but repugnant nonsense out of it.

The queries, however, may be called fruitless criticism, on the presumption that the learned Professor, when he spoke untruly, did not mean what he said. But this is not tolerated in any other science or art. There is absolutely no precedent for it outside of agricultural literature; and no reason exists why the farmer may not expect and demand from a professional teacher straightforward talk on what he knows, and silence on what he does not understand, as well as the patrons of other scientific teachers.

If a professional chemist, or a quack, is asked for a prescription or a recipe, or a mechanic for directions to produce certain results in chemistry, or in mechanism, he is expected to say what he means, and in such words as will enable the enquirer to accomplish the desired result.

By this means the arts are preserved and the sciences advanced. Under an obscure and dubious teaching, the arts are lost, and the light of science goes out.

It is true, epithets are employed even by the learned, to conceal ignorance, and their use is justified, where the present state of knowledge furnishes no adequate solution of the phenomena they represent, and where *their employment can-*

not propagate false notions. As, with the medical faculty, what they can explain is "*specific*," and "*dynamic*" explains all they do not understand; and so the anxious enquiries of their patients as to the cause of symptoms, real or imaginary, are easily and innocently quieted by answering that—"it is the nature of the disease."

In this explanation of what the physician may or may not understand, there is no latent falsity, no misleading figurative term, and no harm results.

But when a thing not understood, is explained by assumptions inscrutable and inconsistent with all we do understand, science suffers by thus shutting off rational enquiry and substituting repugnant speculation.

If a physician should say that an article of food, constantly necessary for the healthy formation and functions of a man's body, would affect him precisely like a bottle of brandy drank at one sitting, merely because presented in a digestible, and, therefore, assimilable condition, the members of a farmers' club would not believe it, because it is contrary to their experience and observation.

With still stronger reason should they reject the fancy that food necessary for the building up the bodies of plants and for the healthy action of their vital functions, if presented in a soluble condition, the only state in which they could take it at all, would produce an abnormal condition in the plants, precisely similar to the action of brandy on a man.

Because, from all we know, or have reason to believe, plants lack the organs necessary for the production of the derangement; and because no property corresponding with brandy is known or believed to exist in soluble, any more than in insoluble plant food; and because it is necessary for the health and life of plants that their food be always ready in this very condition of solubility in abundance in contact with the roots.

Thus, two groundless assumptions support this widespread fancy, and, in three ways, it is impossible of truth.

All such errors are generated in the lack of a starting point, and propagated by corruscations from speculative writers, whose lamps are not trimmed for steady light, and who explain, in the dark, what they do not understand, by figurative expressions of phenomena, the existence of which is unknown to the world.

Starting with a full comprehension of correct general principles, and observing and pursuing these in their divergence through the various channels of practice, is the only rational line of march in science. This necessity must be recognized and obeyed, at whatever cost of labor, in agriculture as it is in the other professions, before we can have any system of agricultural science.

A very great writer on agriculture of the present age, has truly and eloquently said, "there is no profession which can be compared in importance with that of agriculture; on it depends the welfare and development of the human species, the riches of States and all commerce. There is no other profession in which the application of correct principles is productive of more beneficial effects, or is of greater and more decided influence. Hence it appears quite unaccountable, that we may vainly search for *one leading principle* in the writings of agriculturists and vegetable physiologists."

The same great author who undertook, but whose life was not long enough, to erect a system out of chaos, declared that "figurative expressions, with which we are so willingly and easily satisfied, are the foes of all enquiry into the mysteries of nature." But he seems to have left the veil of charity over the leading rule, generally prevailing among agricultural writers, which is never to say anything in a way it has not been said before thus propagating, instead of correcting the errors of the past; and when contentions arise among farmers, who venture to think for themselves, to conciliate them by furnishing oracular arguments for all shades of opinion.

This is the chief leading principle to be traced through all the meanderings of agricultural literature; and the invidious task of lifting the veil has been left for FREEDOM.

Our French Letter.

Preparation of Food for Cattle.

Messrs. Editors American Farmer:

Closely connected with the production of meat, is the selection and preparation of food for cattle. At Berlin, "loaves" for live stock are sold, and are composed of different species of grain according to the domestic animal to be nourished or fattened. The "bread" for horses is a compound of oats, rye, maize and beans; and besides analysis, experience attests the value of this food. The same bread is manufactured for pigs, less the oats, and all is subject to official supervision. Since several years dogs have had biscuits specially fabricated for their use. It is a true adage, "that it is not what one eats that nourishes, but what one digests," hence the value of those processes which aid in the digestion of aliments. Professor Colin, of the Alfort Veterinary College, has stated as the result of his experiments, that he did not find chopped hay or bruised oats digested better than these substances in their natural state. But a horse does not utilize so perfectly its food, as an ox or a ruminant animal. Some agriculturists demand that since pigs thrive so rapidly on a cooked dietary, the same care ought to be bestowed on the preparation of food for cattle. In the latter case, fermenting can take the place of cooking; by mixing cut hay, straw, roots, &c., in a vat, and pouring thereupon boiling water, the mass after some hours will emit an odor like sourkrout, and be highly relished by the animals. The mass is warm, and thus economises the natural heat of the body in the work of digestion, and the woody tissue of the aliments is softened in advance, equal to a residence of some hours in the digestive tube, while exacting less of the juices of the stomach. At the end of the Winter season, horses, it is well known, are liable to deranged stomachs, owing to the prolonged and large demand of a continued dry regimen on the digestive juices.

Phosphoric Acid and Nitrogen.

Professor Sanson, of the Grignon Agricultural College, assures French farmers, that the surest, cheapest and most economical plan to secure a supply of phosphoric acid and nitrogen for

their fields, is not to purchase these valuable fertilizers in the form of commercial manures, but in that of the various kinds of oil cake. He has already shown, that except in the case of horses, wheat, barley and oats ought not to be employed in the formation of wool, milk and meat. In the case of adult animals, where the skeleton is formed, analysis of their excretions proves that phosphoric acid is not retained in the system, and in the case of growing animals, according to H. Weiske, only 65 per cent. of the phosphoric acid in the food is appropriated by the economy; consequently, in both cases the phosphate of potash, so assimilable by plants, passes into the manure; and by purchasing oil cakes, the nitrogen and phosphoric acid they contain are secured almost for nothing, while the animal appropriates their fattening ingredients. An establishment in the vicinity of Paris, which manufactures yeast from barley, rye and maize, sells the malt residue to cattle rearers, at the rate of fr. 1 per 22 gallons. M. Grandeau has analysed the wash, and asserts three gallons of it to be equal to one pound of meadow hay.

Winter Feeding of Preserved Maize Fodder.

The same gentleman has also analysed maize cut green and preserved in trenches for Winter feeding; this operation now becoming so general in dry maize-growing regions, concentrates the elements of nutrition by the fermentation and diminution of the mass, and it seems this fermentation takes place first at the expense of the sugar in the plant, which sugar itself ultimately aids in converting the starch and cellular substance into sugar, and later into alcohol, while increasing the fatty and nitrogenous elements. In the progressing plan of preserving green maize in air-tight trenches, there is nothing new to record, save that the trenches are now made in masonry, instead of being excavated in a field; that the maize is chopped along with straw, one part of the latter to five of the former, and well trodden down. The giant or Caragua maize is that generally preferred. An ox consumes about one-tenth of its weight of this preserve daily. It is essential to have the trench about two yards wide, the same in depth, the sides to be vertical according to some as admitting of a more equal pressure; the length will depend on the quantity of fodder to be stored. Exclude air and water; and after transporting for consumption the quantity necessary for the day, hermetrically close the opening. Maize being considered an exhausting crop, the land receives 25 tons of farm-yard manure per acre in autumn, and a top dressing of 3 cwt. of a mixture of super-phosphate and sulphate of ammonia in Spring,—the maize succeeding Winter rye. In parts of Bavaria, a mixture of tares, peas and maize is also preserved in trenches, and where maize alone is cultivated, the cattle receive two or four pounds of oil cake daily with their rations, maize being regarded as poor in nitrogen.

Progressive Agricultural Steps.

What progressive agriculture most requires is, facts well observed and recorded with precision; it is thus that such a plain unvarnished tale as that of M. Behague's plan of farming deserves to be welcomed, so as to encourage others to publish the history of their operations. M. Behague is one of the leading gentlemen farmers of France; his estate comprises 4,800 acres, of which 217 are in grass, 1,164 in cultivation, the remainder under wood, ponds, and lawns. He has erected his castle, purchased half of his estate, accumulated the two-thirds of his immense fortune out of landed profits, and considers nothing as profit that is not represented at the end of the year by hard cash. He keeps one set of books like a retailer, and another wherein is recorded the history of the "matters" of the farm, as manure, fodder, &c., and which serves him as a guide. The soil is anything but rich; it is gravelly, thin, and cold, but ever tending by cultivation to greater fertility. His workmen (some 50) have each a cottage on the estate; there are two tile fields, a lime kiln, and sawing machines. His sales of wood, either in planks or for burning, yield him a net profit of fr. 17 per acre, and the pines by their resin, somewhat less; his ponds being well stocked with fish, are also a source of revenue, but wood and lambs are the two pivots of his farming. After years of experiments, he gave up rearing Merinos for their wool, finding the price of meat to be more lucrative; he succeeded in obtaining a remunerative race of sheep, by crossing a *Berrichon* ewe with a Southdown ram, and his practice consists in breeding and fattening off lambs, the issue of these crossings, when 8 or 10 months old, and selling them at some fr. 40 each; he thus disposes of 1,000 lambs per annum. The ewes are also fattened and sold, after their third lambing. The arable portion of the estate nourishes about 170 lbs. of live stock per acre. M. Behague does not regard this stock as a necessary evil, but as a source of certain profit.

Applying Chemical Manures.

M. Menier draws the attention of farmers to the fact, based on his own experience, that they can effect a great economy in the use of chemical manures, by always applying them in the form of an impalpable powder. The chemical action of a manure, its power of assimilation by the plant, increases in proportion to the surface in contact; the more a mineral substance is then pulverized, the greater will consequently become that surface. In Britany the peasants confer much benefit on their land, by strewing thereon the powder of portions of rock specially crushed.

Judging of Horses.

The purchasers of horses for the French Army always endeavor to obtain a first look at the animal when he is tranquil and in the stable; noting if the animal supports itself equally well on all its legs, and if one seems to yield, to specially examine it; attention is then directed to the largeness of the pupil of the eye, which ought to be more dilated when in the stable, than when exposed to full light; after the animal has been led out of the stable, the eye ought to be again examined to observe has the pupil contracted,—if not, the sight is feeble; others, to test the power of vision, feign to strike the forehead with the hand. If the hollow over the eyes be profound and the temples gray, old age is to be concluded; wounds about the temples suggest attacks of staggers, and when the end of the nose presents circular scars, it may be concluded

the horse has been twitched with a cord to ensure his quietness while being shod, or having to submit to severe painful operation.

Treatment of Dairy Cows.

M. Limbourg, veterinary surgeon and inspector of the *abattoir* at Brussels, draws attention to the difficulty too frequently encountered, for the perfect separation of the butter in the process of churning. This difficulty presents many anomalies, and which are attributed to a chemical alteration in the milk, to the existence of decomposing principles, and the health of the cows. As a cow is estimated to yield from twelve to fifteen quarts of milk daily, representing a pound of butter, a prolonged difficulty in connection with a large dairy thus becomes serious. Some go to seek the cause, where only the effect is perceptible, and blame the vessels or the atmosphere. M. Limbourg has no hesitation in attributing the cause of this non-separation of the butter in churning, to the feeble health of the cow, to the poverty of the animal's blood, although the animal presents at the time all the external appearances of health. The cow is a machine for producing milk, and the organism can be deranged by excessive or prolonged milking, or continuous breeding; the digestion is performed imperfectly, the blood is not enriched, and hence the animal becomes weak. Connected with this subject is the remark, that cows badly fed during the winter reflect this treatment by a diminished supply of milk during the summer, and, in addition, suffer most when passing from a dry to a green dietary. An ill-fed animal draws upon its system for the elements of its milk, and, when supplied with generous food, first fortifies its economy before yielding the expected increase of milk.

Preservation of Beet Roots for Sugar.

The preservation of sugar beet occupies much attention: 120 pounds of beet yield 22 of sugar, or from 5 to 10 per cent. But this percentage can fall to 3 or 4, when the beet has been three or four months stored in pits; hence the importance of preserving the roots so as to lessen this diminution. The beet ought never to be lifted till perfectly ripe; to act otherwise induces a fermentation which changes the sugar from a crystalline to an uncrystalline state. In the unripe beet, also, there exist acids which favor fermentation. It is recommended to lift the roots without bruising them, and to stack them, leaves on, but turned outwards, in small heaps; allow them to remain in this state till the death of the leaves, when these can be cut off and the roots placed in trenches, covering with straw, which is a bad conductor of heat. The root thus achieves its ripening, by allowing the leaves to remain; the sap thickens by the evaporation of the water at the leaves and roots, and the latter dry, like preserved grapes, but without altering.

M. Tellier has produced the model of his "butcher ship," for the preservation by his process of artificial cold, and the transport of meat from Australia and South America. All that now remains is to *apply* his invention. The engine-room is very abaft in the vessel, and the cold-producing machinery is behind this room; the remainder of the ship is divided into compartments, all fitted up with stalls, wherein the joints are suspended, with facilities for examining the meat throughout the passage. The idea is being tried of introducing caoutchouc in the harness of draught animals, so as to augment the strength of the cattle, on the principle that a weight attached to a spring can be raised more readily than if lifted without it, or like the elastic union of a railway train. F. C.

Paris, March 20, 1875.

The Dairy.

On Cream.

In "*The Dairy Cow*," a recent work on Ayrshire cattle by the Messrs. Sturtevant Bros, we find reprinted in full a paper read at the American Dairymen's Convention in January last, by Dr. E. Lewis Sturtevant, which presents some novel views on this topic, some of which we extract for the benefit of our readers:

On account of the difference in the size and specific gravity of the globules, the author says there is a tendency towards an arrangement of the cream in layers, the largest spheroids being at or near the surface, the smallest against the under side of the cream, and, in consequence of this arrangement, we find in cream an uneven product, as it is formed on the milk, each layer presenting a different-sized globule, and, consequently, a different reaction in the churn.

Now, each layer of the cream being different, and producing a different character of butter, it is evident that one layer must be better for butter-making than another. It has been so determined by a series of microscopic and practical experiments combined, through which, it may be stated, as a rule, that the larger the milk globule the quicker the churning and the better the butter, other things being equal. Hence, in practice, the first cream that rises on any milk is the richest,—that is, produces the best butter, and the butter churns the quickest. The second skimming furnishes cream poorer for manufacture, and the last skimmings may be worthless for high-class butter. A dairyman may, therefore, obtain too much butter from his milk,—the increase in quantity not sufficently compensating for the decrease in quality, brought about through the churning of globules which should have been left in the buttermilk. Hence arises variation from week to week,—cream being a complex substance, affected by the food and condition of the cow, as well as the circumstances of its rising.

In the author's own experiment he has found creams with a specific gravity of 983 by weight, or considerably less than water, and another sample which would sink in water.

It is found from analysis, that some creams may yield *three times* as much butter as others, or, in other words, a milk yielding ten per cent. of cream may furnish *more* butter than another milk indicating thirty per cent. of cream.

The result obtained by Mr. Horsfall, in England, is quoted, where a quart of cream yielded 16 ounces of butter at one time, and 22 to 24, and even 25 ounces at another,—the indicated cream at the time the largest result was obtained being but 6½ per cent.

From other examinations of cow's milk at different periods, the assertion is made that there is no necessary connection between the cream percentages and the butter yield. "The modest cow, with a small cream per centage to her milk, *may* make more butter than the vaunted cow which is supposed to average 25 or 30 per cent. of cream."

The author here digresses to call attention to a few errors:

First, that the Jersey is a superior butter cow, *because* she yields a large per centage of cream.

Another, that there is more caseine in the milk of the Ayrshire than in that of the Jersey. A grievous error for dairymen is, considering all cows alike that give milk, and either placing the native cow far ahead of the thoroughbreds for his use, or, rarely, the corresponding error of claiming that a thoroughbred is superior to the native. We want something more than simple purity of lineage. The type must be a useful one. The butter dairyman must seek the butter type of cow, the cheese dairyman the cheese type, whether this seeking carries him towards the Ayrshire, Jersey or Shorthorn, &c., and discarding prejudice, seek the substance in a type most useful to him. In doing this, those who breed their own calves will naturally use the thoroughbred, and utility, not fancy, will settle the question as to type or breed. The *fact* is, that different milks have different qualities, and in large herds one or more particular cows' milk may very often be withdrawn with real advantage. If this be true, a dairyman should seek a uniform type of cows.

What is Cream?—It is the lighter portion of the milk, collected from the surface after standing, and contains butter, caseous matter, sugar of milk, some little salts, with great variations in the constitution of different samples. It is affected differently by the souring changes which occur in it before it is placed in the churn.—Cream from one class of cows may have its "churning time" hastened more by twenty-four hours' standing than another specimen from other cows, often having stood thirty-six or even forty-eight hours. One cream will leave more waste in the buttermilk than another. With one sample all the butter seems to "come" at the same time throughout the whole mass of the cream, while another shows specks of butter long before the general mass is churned. The more uniform the size of the globules, and the more uniform the strength or weakness of their membrane, the more accurately will they all rupture at one time and allow the butter to collect. Again: as only the globules above a certain size are broken in the ordinary process of churning, the cream with the fewer granules (*i. e.*, very small globules) would be expected to produce the most economical results.

In *Churning* cream presents differences. One cream may be easily and quickly changed by even and regular motion, while another may be benefited by, or even require, more violent agitation.

Deep or Shallow Setting of Milk.—The author determines this vexed question theoretically, in a manner, he thinks, deserving the confidence of practice. The form-element of the cream is the globule, which varies in size and specific gravity. Lighter than the fluid in which it occurs, the tendency of each globule is to seek the surface. The butter we strive to obtain is the pure fat of these globules.

Now in *deep* setting of milk the globules, acted on by gravity, arrange themselves in order, and the deeper the jar in which the milk is set, the more regularly will the globules arrange themselves according to size, from above down. In the *shallow* setting we have a greater mixture of the different sizes of globules in the same space than in the deeper setting, and the deeper the setting the more completely would the globules be arranged in order according to size. Such being the physical effect, the question arises, what effect will occur in practice from having cream of such different churning quality at different depths? It is to be remembered the size of the globule has a strong influence on the churning.

When a bowl is filled with coarse shot, a considerable addition of fine shot may be made without any increase in the bulk, the finer shot occupying the interstices between the pellets. So with the globules of cream: when there is considerable difference in their sizes when they accumulate together in rising, there must necessarily be more butter or fat in a given bulk of cream than when the globules are nearer of one size. As the globules are more completely mingled in the shallow setting than in the deeper, the cream of the shallow setting, bulk for bulk, should contain more butter than the cream from the same quality of milk that has had the use of a greater depth of fluid to arrange itself in.

In the arrangement of the globules in the deep setting, we have the larger globules and those which are easier churned at the top, and the smaller globules, which are churned with greater difficulty, at the bottom. That is, there is more difference between the upper and lower half of this cream than in the cream of shallow-set milk, and as placed in the churn the cream of the shallow setting has a more complete mixture of the various-sized globules than that of the deep setting.

From his theoretical standpoint, the author asserts,—the effect of gravity in arranging particles of differing sizes and weight, and the influence of the globules of the milk in churning being known—that we should expect a larger proportion of butter from shallow than from deep setting, but if there is any difference in quality it would be in favor of the deep setting, provided there was neither over-setting nor over-churning. He concludes by saying that "cream is uniform neither in chemical, practical, nor physical composition," and that "the dairyman must treat each sample, or the average of that which comes under his care, through knowledge—that is, by science rather than routine; that dairy practices, in cases of difficulty, must be governed by reasoning rather than by guess-work. These remarks apply to milk as well as cream—in fact, to the handling of all dairy products."

Mr. Lurman's Report on Dairy Farming.

Since April 1st, 1867, I have kept an accurate system of farm accounts, and am thereby enabled to give a few figures. On that date I had twelve cows; the gross yield of calves, butter, milk and cream to April 1st, 1868, was $1,182.41, making

the average yield per cow $98.53; from April 1st, 1868, to April 1st, 1869, I kept an average of fifteen cows; the gross yield of calves, butter, milk and cream for this year was $1,710.29, making the average yield per cow, $114.02; from April 1st, to September 1st, 1869, I kept an average of eighteen cows; the gross yield for these five months was $879.42, making the average yield per cow $48.85, or an average for a year of $117.24 per cow. The average yield for these two years and five months would have been much larger if I had credited the cows with the hogs fed on the skim milk.

I then went into the milk business, and continued it until November 1st, 1872, when I gave it up and resumed the butter dairy in a small way.

From Nov. 1st, 1864, to Nov. 1st, 1870, I kept an average of fifty-five cows; the gross yield for this year was $7,383.13, making the average yield per cow, $134.23. From November 1st, 1870, to November 1st, 1871, I kept an average of fifty cows; the gross yield for this year was $8,693.64, making the average yield per cow $173.87.

From Nov. 1st, 1871, to Nov. 1st, 1872, I kept an average of forty-eight cows; the gross yield for this year was $8,233.15, making the average yield per cow $171.52. This last average was made in spite of the prevalence of pleuro-pneumonia in my stable during the greater part of the year. Since January 1st, 1873, I have kept an average of ten cows; the gross yield of milk, butter, calves and pigs fed from the dairy in two years and two months to March 1st of this year was $2,711.43, making the average yield per cow per year $125.14. I receive 40 cents per pound for the butter all the year from a storekeeper in Catonsville, one mile from my farm, and keep two Chester brood sows on the skim milk, selling the pigs at $3.00 and $4.00 apiece when six weeks old. I feel assured that any farmer pursuing the ordinary rotation of grain and grass can profitably carry on a butter dairy if he can average 40 cents per pound for his butter the whole year.

After a number of experiments in various modes of feeding butter cows, I consider the best results can be attained by good pasture in Summer and clover hay, yellow corn chop and mangel-wurtzel in Winter.

The following is a careful estimate of the cost per cow of my present mode of feeding for one year:

Six months pasture at $3.00 per month	$18 00
2,700 pounds clover hay, (allowing 15 pounds per day for 180 days) at 75 cts	20 25
900 pounds chop at $1.60 per 100 pounds, (allowing 5 pounds per day for 180 days)	14 40
Corn fodder fed in the barn-yard at 5 cts. per day for 180 days	9 00
90 bushels mangel-wurtzel at 10 cts. per bushel (½ bushel per day)	9 00
Labor at $2.00 per month	24 00
Total	94 65

The hay is cut and with the chop made into a mash feed—giving a clear profit of about $30.00 per head after paying the full market price for all the produce fed, including pasture, and without giving any credit for the valuable manure made.

The above results have been attained from what are called common or grade cows, some probably half Alderney.

There is no question that the Jersey is the best butter breed, and except under peculiar circumstances, I think a farmer deciding to sell butter should endeavor to start a herd of pure Jerseys or Alderneys as soon as he is able. I am pursuing a different system because, owing to my proximity to the city, I do not think it pays me to raise stock of any kind, and only aim to keep those that are producing something every day. I find that I can buy plenty of good cows at reasonable prices. Of course a farmer supplying the labor from his own family, and in sections of the country where hay is less than $15 per ton, corn less than $4 per barrel, and pasture less than $3 per month, can largely increase the profits.

There are very few sections of Maryland so remote from a market that a farmer cannot secure an average of 40 cents for good butter.

I do not think it profitable to steam food for cows except in the milk business. After carefully measuring the milk of two churnings in the past two weeks, I find that the average yield of butter is one pound to two gallons one quart of milk.

I am now making sixty pounds of butter per week from twelve cows. Some have been milking since last fall, and some are heifers with their first calves, so that I feel very well satisfied with the present average of five pounds per week.

As regards the milk business, I think it can only be carried on profitably by the system and regularity observed in large manufacturing establishments, and the farmer should work it to the full extent of his capital and his market.

Keep as many cows as you can, feed them as much as you can, coax them to eat of the richest and most nutritious food, and steam everything in the Winter.

The milk producer should never encumber himself with young stock; if he has feed for these it is better to keep a few more cows that will yield him a daily income. Buy good fresh cows from farmers who are not in the milk business, and have your cows fat for the butcher by the time they get down to one or one and a half gallons of milk per day. I have occasionally sold cows to the butcher for as much as $10 more than I paid for them when fresh.

I have tried both systems, keeping good cows over to calve and raising the calves, and found it necessary to keep almost a fourth more cows to produce the same quantity of milk than when I fattened and sold to the butcher. Almost all cows drop off in their milk when they are half gone in calf, but they must still be fed until they calve and milked until they go dry. My profits were increased when the former system was abandoned.

I found the best mode of Winter feeding to be the following:

4 A. M., before milking, one quart yellow corn chop. 7 A. M., 10 pounds cut clover hay and seven gallons of hot slop made with five pounds brownstuff mixed together. 8.30 A. M. two quarts yellow corn chop dry, to induce the cows to lick their troughs clean. 12 M., one

bushel cut mangel-wurtzel with one quart of chop sprinkled over it. 6 P. M., same as the feed at 7 A. M.

It is also necessary to adopt the soiling system for Summer feeding, and in my opinion there are only four green crops required, and in the order named: rye, orchard grass, clover and corn. Stop the steamer when the rye is ready to cut, and until frost give the cows all they will eat of the above in two meals per day, with only the addition of four quarts of chop. My reason for giving up the milk business was because the wholesale price of milk fell from 25 cents to 20 cents per gallon, thereby reducing my gross receipts about $2,000 per year. It is a most slavish business, and the milk man deserves a good profit for his unceasing labor and attention.

He must look forward to a visitation of that terrible scourge, pleuro-pneumonia, which has attacked almost every large stable of cows without exception in the vicinity of Baltimore in the last ten years, and his profits must be sufficient to stand the heavy loss when it comes.

To make this profit he must keep his average at two and one half gallons per cow, and get sixty-two and one-half cents for it per day.

At this rate the following is an estimate of the net profit per cow in a stable of forty cows for one year:

CR.		
912½ galls. milk, at 25 cts.....		$228 12½
DR.		
2,100 lbs. corn chop at $1.60 per 100 lbs.	$33 60	
2,000 lbs. brownstuff.....	25 00	
3,600 lbs. clover hay at 75 cents per 100 lbs.....	27 00	
180 bushels mangel-wurtzel at 10 cts.	18 00	
Labor at $2.50 per month.....	30 00	
Average loss in exchanging fat cows for fresh.....	10 00	
Her share of sundries including cost of delivery of milk, repairs, horse labor in raising green crops, etc....	24 00	167 60
Net profit.....		$ 60 52½

or, about $24.00 per year, on the stable of forty cows.

I feel confident that I would have attained the above results had the price of milk remained at 25 cents per gallon. G. W. LURMAN.

Cattle for Fattening.

Mr. S. W. Ficklin, in an address on feeding cattle to the Belmont Club of Albemarle Co., Va., says that he has no hesitation in giving the preference to Short-horns, and their grades, in *all that constitutes* the animal suited to a fair grass region of country, except that the Devons and their grades excel all as work oxen for activity, uniformity of style and color.

With the same keep, they will not mature by a year or more as soon as the Short-horns and their grades will do. The mode to fatten, and the age, is very varied, depending upon the localities and the breeds that can be raised or purchased, the aftermath of meadows and late pastures in the Fall, and how the farmer may be situated with forage, shelter, age of animals, and their capacity to accumulate flesh and fat; if at a mill, or convenient to one, and the *certainty* that the animals get the meal and bran intended for them, and with regularity, care and kind treatment.

Live Stock.

Origin and Description of the Chester White Hogs.

Messrs. Editors American Farmer:

After speaking of the great demand for them, a well-known dealer says:

They are generally recognized as the best breed in this country, coming fully up to the requirements of a farmer's hog, and are rapidly superseding Suffolks, Berkshires and other smaller breeds.

They originated about fifty years ago, through the exertions of a number of prominent and enterprising gentlemen of Chester county.

They imported, at great expense, the best hogs to be found in England and other European countries, and crossed them on the sows of Chester county, from which have sprung a breed of hogs whose reputation is world-wide. This has only been accomplished by long years of careful breeding. They endeavored first, by a wide selection, and a judicious and discriminating coupling, to obtain the type desired; and then, by close breeding connected with vigorous weeding out, to perpetuate and fix it.

Description: The best specimens may be described as long and deep in the carcass, broad and straight on the back, heavy hams, full shoulders well pushed forward, admitting of no neck, wide chest, plenty of play for the lungs, a very small proportionate head, short nose, dish face, breadth between eyes, moderate ear, thin skin, straight or wavy hair, a capacity for great size, and to gain two to three pounds per day till they are two years old. Add to these, quiet habits, and an easy taking on of fat, so as to admit of being slaughtered at almost any age, and we have what is considered in Chester county a carefully-bred animal, and what is known elsewhere as a fine spicimen of the breed called "Chester County White," and a pig that will grow to weigh from 500 to 800 lbs., at 16 months old. They will make more pork in a given length of time, with a given quantity of food, than any other breed of hogs. Their ears should lop, or droop downwards.

Value of a Thoroughbred Boar.

A breeder's circular says that "the thoroughbred pigs," in starting a herd, is chiefly valuable in breeding to the common stock. By using a thoroughbred boar upon common sows, you get a half-blood that does very well for feeding purposes, which can be further improved by selecting the best sow pigs, feeding them liberally, and again getting a thoroughbred boar and using on them, which, if practiced a few years, will produce porkers nearly equal to the full blood. But graded or impure males should never be used, as the tendency is to run back to the scrub. The thoroughbred, if purchased young, can be had from $10 to $25 each. He can be used one season, then sold or castrated and fed, when he will of himself almost or quite pay for his original cost. At first thought, to many, the price for a pure blooded pig may seem high, but really it is better to pay the price than let your sows go to a scrub for nothing. Say you pay $25 for a boar, and breed ten sows:

they will raise say fifty pigs, which is a low estimate. The pigs then cost you fifty cents apiece, and will make hogs that will weigh at fattening time from one hundred to two hundred and fifty pounds more than scrubs, (which good grade pigs will do on the same feed.) You have, therefore, an increase of value of from $1.50 to $3.50 in one year, with the price of pork at $8 per hundred, and you almost have your boar as clear profit. Can you invest your money to a better advantage? And sows from such a boar are worth one-half more for breeding.

Bethany, Brooke Co., W. Va. W. C. RIDGELY.

Improved Hogs and Breeding Sows.

A correspondent of the *Southern Planter* gives the following on the adaptability of the Poland Chinas for this section, and some good suggestions on the care of breeding sows and young pigs:

It is economy for every farmer and breeder to get a good sow of some first-rate breed, or else breed the best common sow you can find to a thorough-bred boar, and raise a good breeding sow. Good pigs are always in demand, and it is nearly as easy to sell a pair of thorough-bred pigs at from $20 to $25 as it is to sell a pair of common ones at $5, and the same amount of food fed to a good pig will make twice as much meat as to the other. The only difference in expense is in first cost of the boar or sow. Some ask, what are the best breeds? If I wished a small breed of hogs for table use, my choice would be the Essex or Berkshire; but no breed possesses so many good points and qualties as the Poland-China hog. Their prolific qualities, their quiet, gentle disposition, their adaptation to being profitably slaughtered at nine or twelve months old, and, if kept still longer, continue to grow and reward the owner for every pound of food he gives them, and these excellent qualities put them ahead of any breed I am acquainted with, and I have tried all of the best breeds. They are good grazers, and will keep fat on any good pasture; they are not disposed to roam and fret, and are not gross feeders, but, like all other animals, require their food at regular intervals, and if kept and well cared for until twelve or thirteen months old, they will yield from four to six hundred pounds; unlike all other large breed of hogs, they are not at all subject to the mange. What other animal will yield so much in so short a time from so small a beginning, with such a small outlay, and have so many good points and qualities to recommend them?

The Poland-China breed originated in Butler county, Ohio. It is by some called the "Gregory Creek" hog, by others the "Moore" hog, but is generally known as the Poland-China hog. They are composed of four distinct breeds, viz: "Poland," "Big Spotted China," "Big Irish Grazier," and "Byfield;" this breed is of fine bone, but of large size, combining more eminently than others the excellencies of both large and small breeds. The Poland-China hogs are mostly spotted. I think they will become very popular in Virginia, combining every quality suitable as a cross on our common stock.

My rule in selecting the pigs to raise from for breeders, is to count the teats. One with twelve fully developed teats will infallibly be prolific and a good nurse, good for milk, and careful of her young. Fourteen teats should be preferred; but never try to raise pigs from a sow with less than ten good teats.

Avoid breeding in-and-in. Another important point is that the sow should be so petted as to become fond of the person who has the care of her, and thus lose the natural ferocity of her kind. When she brings forth her pigs give a sufficiency of food to keep in good flesh and growing; a sufficiency, but not an excess of salt, and an abundance of drink. Keep warm in winter, and cool in summer. A pail full of water occasionally dashed on the animal on a hot day is very reviving and conductive to good health. A sow goes with young sixteen weeks, and but seldom varies twenty-four hours from that time. She should have all the warm water she will drink. This is very essential, as it helps the flow of milk and prevents fever.

The pigs should be taught to eat with their mother as young as two weeks, which may be done by having a broad shallow trough, and gently putting them into it when the mother is eating.

Poultry Yard.

Raising Chickens.

We copy the following from an unknown source. The suggestions seem to be good ones, when applied with judgment:

The raising of a brood of chickens seems at first glance to be an easy matter, and so it is if you know how. From this time until harvest, or later, on every farm, large or small, in all south-eastern Pennsylvania, will be seen chicken coops scattered about, in orchards, lanes, roadsides and yards; and flocks, larger or smaller, as the case may be, of young chicks, running and foraging in all directions.

Many farmers colonize their flocks in lanes and in the edges of fields, and by the side of a woods at some distance from the buildings. They do this for two reasons: first, to escape the gapes in the young broods; and, secondly, to prevent over-crowding.

On premises infested with the gape worm, (*Sclerostoma Syngamus*) this proves the most difficult trouble to overcome in the business. More chicks die from this disease than from all others combined. The disease consists of parasitic worms lodged in the trachea or windpipe.

Some persons cure the gapes by mixing a little kerosene in the feed. In this case it is the odor that effects the cure. The kerosene cannot come in contact with the worms except in a votalized condition in the act of respiration. Some use as a remedy a morsel of camphor, the size of a small wheat grain, given daily in pill, and put a small quantity of camphor into the drinking water. Some put shavings in a box and saturate them with spirits of turpentine, and then confine the chicks in the box for a short time. In this case the remedy acts on the worms by the respiratory act, and is said to answer well. We have never tried it, but

judging from the known therapeutic effect of the article we do not doubt its efficacy. It might possibly injure the chick too long exposed to the fumes, whereas carbolic acid is perfectly harmless. Many people cure the chick by removing the worms by means of a horse-hair or some similar instrument. This method is effectual in the hands of an expert, but not very successful in other hands.

To prevent gapes, then, have clean, dry, warm coops. Do not let the chickens out in the morning before the dew is off. Gaurd the broods carefully against cold rainy weather. Mix a few drops of kerosene in their morning's feed. Use carbolic acid as above recommended. A cheap acid in solution is as good as the pure crystallized article. Set the coops on the ground not before used by broods, if it can be done. Chicks should be liberally fed until the foraging season for insects sets in. They should be fed very early in the morning, as they are always hungry and restless until fed. Keep their coops clean. Give pure, clear water three times a day, in clean vessels shaded from the sun.

Horticulture.

Maryland Horticultural Society.

The April meeting and exhibition was held at the Academy of Music, and was a great success. The handsome rooms in which the plant show was held were brilliant with flowers and foliage plants, and at night, when they were illuminated, the effect was extremely beautiful. The contributions were quite numerous—enough for the size of the halls,—and it has been estimated that there were not less than 2,000 visitors during the evening. There was no admission fee charged.

Of the amateurs exhibiting Mrs. Isabella Brown had some fine cinerarias, geraniums, azaleas, calceolarias, &c; Mrs. W. W. Spence sent azaleas and cinerarias; Mrs. Charles. J. Baker, some forced strawberries; Mr. Whitman had a very full table with abutilons, fuchsias, petunias, &c., and a large orange tree and an epiphyllum Jenkinsoni in full bloom; Mr. Rasin had a very effective table, the plants not only being well-grown, but tastefully arranged. Among them were large specimens of sanchesia nobilis variegata, phorium tenax var., begonias, &c., and some handsome ferns and lycopods. A very attractive centre-piece to his table was a well-grown and symmetrically hibiscus Cooperii—a plant not rare, but very striking for the beauty of its crisp foliage, and especially noticeable for its beauty under the test of brilliant gas light. On the whole, we think this was the most effective plant shown. Mr. Perot sent some azaleas, a genista venosa, and a plant in bloom of the curious clianthus Damperi; Mr. McHenry, colens and tri-color geraniums; Mr. A. Hoen, pansies, and Mr. C. A. Oakford, very fine azaleas.

Among the professionals, Mr. John Feast had, as usual, a noteworthy display of the rarer plants and handsome specimens of standard kinds. His collection embraced large camellias, including his prize seedling, "Mrs. General Lee;" new Fericas and primulas; pandanus, dracænas, ferns, &c. A rare anthurium attracted much notice. Mr. R. J. Halliday had calceolarias, ferns, dracænas, hanging baskets, &c.; Mr. Pentland, geraniums and seedling verbenas: Mr. J. Edward Feast, ferns and dracænas; Mr. Patterson entered verbenas, fuchsias and very fine pot and cut roses; Mr. Fairley, geraniums and rose-buds of great beauty, and Mr. Brackenridge contributed seedling verbenas, including a *tri-color* of noticeable merit.

The awards were as follows, the judges being Messrs. J. Edw. Feast, Henry Taylor, and J. Mowton Saunders:

R. J. Halliday, first best 6 varieties of calceolarias, $2; Mrs. Isabella Brown, (Mr. Donn, gardener) second best 6 varieties of calceolarias, $1; Andrew Patterson, first best 12 varieties of roses in pots, $4; Andrew Patterson, first best 12 roses, cut blooms, $3; James Pentland, first best 24 cut-bloom pansies, $2; Ezra Whitman, (F. Fauth, Jr., gardener) second best display of pansies, $1; James Pentland, first best 12 varieties of verbenas in pots, $2; Andrew Patterson, second best 12 varieties of verbenas in pots, $1; Mrs. Isabella Brown, (Mr. Donn, gardener) first best 6 distinct varieties of cinerarias, $2; James Pentland, first best 12 zonale geraniums, $3; Mrs. Isabella Brown, through her gardener, Mr. Donn, second best 12 zonale geraniums, $2; James Pentland, first best 6 specimens of double geraniums, $3; James Pentland, first best six specimens of variegated geraniums, $2; and to John Feast, the best collection of greenhouse plants, $5.

J. Howard McHenry, (Mr. Fischner, gardener) first best variety of foliage geraniums, $2; Ezra Whitman, (F. Fauth, Jr., gardener) second best variety of foliage geraniums, $1; R. W. L. Rasin, (Mr. Anderson, gardener) first best variety of ferns, $2; R. W. L. Rasin, first best variety of lycopodiums, $1; R. W. L. Rasin, first best variety of calceolarias, $2; R. W. L. Rasin, first best 12 stove plants, $5, and to Ezra Whitman, (F. Fauth, Jr., gardener,) bouquets, $1.

Special premiums to Mr. Charles J. Baker, (Daniel Thuly, gardener) for two dishes of strawberries, $2, and to Ezra Whitman, (F. Fauth, Jr., gardener) for red cactus in bloom, $2.

Honorable Mention.—C. A. Oakford, for display of azaleas; Thomas Fairley, for variegated geraniums, too late for competition; J. Edward Feast, for fine display of ferns and dracænas, and M. Perine & Son, for display of flower pots and terra cotta ware.

The meeting of the Society was very largely attended. There was no business transacted. The subject for the evening's discussion was "Plants for Bedding Out." Unfortunately, Mr. A. J. Black, who was to have read a paper as introductory to the subject, was absent through sickness; but Messrs. Brackenridge, Snow and Flitton, being called upon, offered interesting and instructive suggestions on the subject, and Mr. John Feast read a short paper, which he had prepared, treating not only of the varieties usually employed but of some plants less commonly seen bedded out.

For this month's meeting the subject will be "Orchids," and Captain Snow will read a paper and illustrate his text by specimens of the blooms from his large collection.

Notes on Pears.

Captain Snow's List of Pears in Tidewater Virginia.

Messrs. Editors American Farmer:

Seckel.—I don't think there are two varieties of *Seckel*, having seen the size nearly doubled by manuring and thinning on my own trees. Difference in soil and culture may so change the appearance and size of the fruit as to lead to this impression. A lady on a visit to the writer some years since was handed a waiter of this fruit from a tree to which had been applied a cart-load of manure the preceding Winter. The fruit, gathered a week, had been placed in a wardrobe to ripen; its color was less russet and more yellow than is usual, and she exclaimed: "they were double the size of her Seckel, (of which she had five or six trees in full bearing) and of a different color." Two years after this the same tree yielded six boxes of small fruit similar to other Seckel. We do not regard the fruit here as valuable for market, and it is ripe with us too early, and decays too rapidly, to be of much value even for family use. Often we cannot sell, and it is used for pickles and preserves. We might dry them whole, as the French dry pears.

Duchesse d'Angouleme.—Succeeds well both as *dwarf* and *standard* here, but the trouble is that it *ripens too early* for the New York and Boston markets. Extra fine boxes, carefully handled and skillfully marketed in New York, pay well. The trees set as dwarfs bear more than double the fruit they can mature, and unless well thinned and the trees manured, they do not recover from the shock of over-production for two years.

Bartlett.—On high dry sandy loams, the standards do admirably here, grow well, produce early, and we don't find them subject to blight. On what some persons consider good soil for pears,—stiff soils with clay in excess, or any soil not well drained,—it blights badly. Taking all things into consideration, even although it has to contend with the peach market, it is one among if not the most profitable pear we can grow. In a series of years the same number of trees will produce nearly double the number of boxes of market fruit than those of any other kind, and we can afford therefore to grow it for *less money* than any other.

Sheldon.—A few trees only, in full bearing, bore very heavy crops two years since, well ripened from the tree, as Captain Snow remarks "all pears should be." A very good table pear; no experience with it in market.

Lawrence.—Healthy tree; bears well after it *once commences*, but as a market fruit with us is not valuable, simply, I presume, because the Boston people have a particular time for eating these fall pears, and those grown here come to them *not in their season.*

Howell.—A very healthy tree as standard and dwarf, fruiting quite early. One of the most beautiful in form and color of the 27 kinds contained in the fruit garden and orchard. It is ripe for shipping with me at the same time with Edmonds, Belle Lucrative and Parsonage, and all are frequently shipped with Bartlett. There has been no blight with Belle Lucrative here.

Clapp's Favorite.—Good; an ugly grower after 4th year; no experience with the fruit yet in market.

Manning's Elizabeth—Not *Rogers'*.—I have a few trees on the quince and don't want any more. It is a miserable little half russet round thing, not much larger than the little Doyenne d'Ete and only a little behind it in ripening. The only use of this summer Doyenne is to give early ripe pears to the children.

Beurre Diel.—The tree grows very large and rapidly on the quince; some five or six in the fruit garden, 10 years old, are nearly 20 feet high. The fruit sets full every year and all goes on well until August, when there comes some leaf and no wood blight. I don't think any of the trees have lost limbs, but the leaves turn black and drop and consequently the fruit does not mature well. There is no cracking, but a drying up and shriveling, hence the trees are of no value here.

Jaminetti.—Healthy tree, beautiful in form, rapid in growth, fruits every year, about September—the second week. The pears blotch, have dark sooty spots and crack open.

Vicar of Winkfield.—Grows well; has disappointed me in bearing.

Beurre d'Anjou.—Very handsome, rapid growing trees, both standard and dwarf. Fruit very fine to eat when properly matured. No experience with it yet in market, but a friend in my county has sold it well in Boston, several times.

Beurre Superfin.—There are four trees of this kind in the fruit garden which have yielded two full crops of nearly a box each; don't remember to have ever tasted one. It has been gathered with Howell, Parsonage and Belle Lucrative, and I have not a word to say in its favor.

Louise Bonne de Jersey.—Healthy tree and good grower on its own roots and quince up to bearing, then if on quince and not thinned to about half the fruit it sets, will break the tree down very much like the neglected peach trees of farmers. The fruit with me, even when trees are thinned, is small—much smaller than I have seen it in Europe or grown near Boston—and its rough bitter tough skin, as Captain Snow remarks, makes a poor table fruit *with skin on.* Have regarded it with so little value that all the trees I have are in process of conversion into *Hosenschenck*—Moore's White Pound. This we regard in this neighborhood as *par excellence* "the market pear." It is about eight days in advance of Bartlett. As large or larger than its competitor, smooth, turning white with a yellowish cast when ripe and sells well. The parent tree, now over forty years old, came from a nursery near Baltimore. It grows on the quince well, but none have yet failed with me on the stock. Takes its name from "Big breeches" Schenck of Pennsylvania, on whose place it originated.

Buerre Giffard.—Find, as Captain Snow states, it does not do well on quince; bears its fruit in twos and threes on the ends of the branches, and their weight causes it to bend to the earth. We regard it as *our largest very early pear*, ripe here 4th July. I have not found it to *rot* at the core. Gathered just as it is turning, and placed in empty hives in the apiary, it has colored

up and proved very enjoyable by the ladies of the household.

Flemish Beauty.—There are about twenty in the orchard of standard and dwarf; don't want any more; shed their leaves; are as naked as winter trees in August; make feeble attempts to leaf out again in September, after rains.

Beurre Clairgeau also disappointed me; four trees came into bearing quite early, and the fruit was so large and fine, twenty-five more were added with the order for Bartletts. The next year the trees began to shed their leaves when the fruit was three-fourths grown, and the fruit spotted so badly that it was unfit for market.

Swain's Orange.—Very large coarse pear of little value here for family or market; rots at the core badly, even before ripe enough to eat. Tree blights badly—only one of four remains.

Early Catharine.—Not quite as large as Bartlett; season about the same. I prefer Bartlett.

Boykin's June.—A very early and very good small pear, bears well and quite often profitable for shipping; originated, I believe, in Isle of Wight county, Va.

Sugar Pound.—Very large, early, coarse pear, not good for market; wants color. A healthy tree and vigorous grower.

Doyenne Boussock.—The few trees I had on quince blighted and are gone, and did this in the same row on similar soil when others were healthy. Capt. Snow's remarks about blight *on seedlings*, where budded trees escape, accords with my experience—I find suckers from the roots of *healthy* Bartletts springing up some distance from the body of the trees have *blighted, been killed* during past seven winters, and I am sure, from recent thorough inspection of every tree, *there is no indications* of *blight* in the whole orchard. In the nursery there are several hundred pear seedlings, nearly all budded past summer. On cutting the stocks above the buds a few days since, found a number of the seedlings had died since the *Fall.*

In conclusion, permit me to express my entire disapproval of the proceedings of the United States Pomological Society's method of valuing or giving *stars* to varieties of fruit. Each State should have its committee of fruit-growers residing in *different* sections; and *notes* on *fruit*, their success in every respect, as regards health of trees and fruit value for family and market, should be presented to the chairman for his correct written report. Such a report would be interesting and valuable. What are we to make of this? The name of a certain fruit is called a peach, pear or apple, and Mr. Smith rises, *three stars* for Virginia for the fruit named! Now, where does Mr. S. live in Virginia? In Tidewater, Piedmont country, or the Valley of Virginia? And how many fruit-growers know about their stars? NANSEMOND.

Exchange, Va.

Means of Producing Vigor and Growth in Orchard Trees.

Messrs. Editors American Farmer:

We are aware that much has been said and written on this subject, and we have occasionally alluded to the means of improving the condition of our orchards in previous issues of the *Farmer.* But the season is backward and not too far advanced for reminding our farmers of the resources which are generally at hand for forwarding growth and promoting the vigor, health and maturity of their trees. In short, we all desire early returns, which cannot be effected without care and attention.

A good writer says: "We may with as much reason expect a steam engine to run without water and fuel, as to look for good fruit without proper culture, fertilization, and care." We must have the tree before we can have the fruit; and, as a people, we are impatient of delays—we cannot wait for results.

Trees selected for the orchard, as a general thing, should be *free growers*, but some are not naturally so; and to these the arts of culture are to be more particularly applied. If the soil is not already rich the young trees should be manured *every year* moderately in some way.

The compost of bone and ashes is excellent, supplying, as it does, potash, lime and other elements needed for fruit-producing trees. A compost of swamp muck and well-rotted barnyard manure is also excellent to push young trees.

When an orchard begins to bear, a compost of the following proportions is recommended by good authority: "To each barrel of dry ashes put two bushels of bone dust, eight quarts of common salt, and, if obtainable, four quarts of iron scales (peroxyd of iron.) These ingredients should be well mixed and the mass saturated with water in casks or tubs. Let it remain until well decomposed; then turn out, shovel over and mix with five times its bulk of good swamp muck, leaf-mould, road scrapings or a mixture of these. A bushel or less of this mixture, according to the size of the trees, evenly spread around as far as the roots extend, will cause the production of the finest, high colored, delicious fruit." This is especially intended for the apple tree; but, if judiciously applied, will have a marked effect on the pear, peach and other fruit trees.

If the present season is deemed too far advanced for the preparation of the last-mentioned compost, the use of either muck, leaf mould, or road sweepings, is highly beneficial if applied at any time during the Spring. Mulching newly planted trees is very advantageous in case of drought, and the mulch should be applied immediately after a good rain in June. J. FITZ.

Keswick Depot, Albemarle Co., Va., April, 1875.

Notes from La Revue Horticole.

Translated for the American Farmer.

BY NANSEMOND.

How Horticulture is Taught in France.

The editor of the *Revue*, M. Carriere, remarks: "As in former years our eminent confrere and fellow-laborer, M. Verlot at Grenoble, will give a public and free course of lectures on arboriculture. Below will be found the notice of Monseiur the Mayor of the city of Grenoble:

"M. Verlot, gardener in chief of the city, gives notice that the course on Arboriculture specially applied to *fruit trees* will commence on Sunday,

the 17th January, and will be continued up to Thursday, the 4th March following. He will lecture on Sunday and Thursday of each week at 11 o'clock in the morning, in one of the halls of the museum of the Jardin des plantes.

Some lessons will also be given every Sunday morning at 8 o'clock, from the 25th of April to the 6th of June following. After *each theoretical lesson, practical demonstrations in relation thereto will take place*, in the fruit garden of the city."

American Irish Potatoes in France.

In the February number of *La Rue Horticole* appears an article, by M. E. Lambin, giving a detailed experience of new vegetables introduced to public notice in the year 1874,—"Legumes nouveaux de 1874." After thanking M. Vilmorin, a seedsman at Paris, who sent them to the professor, and giving the good and indifferent results of the culture of squash, snap beans, peas, lettuce, et cetera, he closes the article by a notice of four kinds of Irish potatoes, three of which are known to the writer as American.

Pomme de terre farineuse rouge—Red skinned flour ball. There is nothing specially interesting in the description of this kind except the strong recommendation which this French gentleman gives to *cultivate it* in gardens for the *great quantity and beauty of its flowers or blossoms*. His exact words are "for the decoration of gardens, we scarcely know how to value this precious solanee. In fact, it is an excellent kind to cultivate under all circumstances, for, independent of its qualities, it has the merit of keeping, without alteration, a very long time." This *merit*, we find, applies to most of our varieties.

Pome de terre prolific de Bresee (Bresee's Prolific.)—After describing the tuber, he says its taste recalls exactly the flavor of chesnuts; "also, we don't hesitate to recommend it in a manner quite particular."

Empereur hative (Early Emperor.)—Says the name "hative," (early) is de trop, "since, in his garden, it was not ripe by the first of August." He omits the important statement of the date of planting and circumstances of season and soil favorable or otherwise to its early maturity.

La Pomme de terre incomparable.—The Peerless.—Very favorable report. "We ought not to hesitate to introduce it into both garden and field culture." It is only in its second season.

He continues:—"We come at last (to close the list of potatoes introduced in 1874,) to the variety which has been so much spoken of since last Spring—'rose hative'—Early Rose. Its extreme vigor, with its abundant productiveness, which is the greatest with which we have ever met, will make it certainly the queen of Irish potatoes, if the quality leaves nothing to be desired. In regard to the latter, we have much better, and, besides, the name 'hative' (early) appears to us misplaced—since the 30th August, 1874, it was not quite ripe here. We are not yet quite decided in our opinion about it, and promise ourselves to examine it again this season in order to form a definite judgment." A description of the tubers then follows, and concludes by saying the E. Rose is ten days later than a native kind—La Marjolin.

The Past Winter in Paris and France.

Notwithstanding the fact that we have had a great deal of snow in Paris this Winter, and it has been the same in certain parts of Europe even where it was almost unknown in former years, it must not be concluded that the same weather has been experienced everywhere in France. Monsieur Durieu de Maisonneuve, date January 3d, writes to us as follows: "It is with great astonishment that we read in the papers that the weather has been extremely cold in the North and even at Paris, since we have had here a very rainy time, a season very rainy without doubt and excessively humid, but a temperature very mild, almost Spring-like, to such a point that at night the moisture is condensed on the outside surface of the glass of the windows, which are dry on the inside.

The mean (moyennes) temperatures of Bordeaux and Paris present so little variation between them that it is difficult to appreciate such a difference."

On which the editor comments: "It appears in fact difficult to explain differences so marked as those noted above; as for us, we shall not attempt it, but limit ourselves to citing the facts, leaving the explanation to others."

Use of Tan as a Preventive of Melon Bugs.

In the January No. first issue of this year appears an article with sundry letters from correspondents on "Emploi du Tan Contre le Puceron Noir du Melon," from which it appears that spent tan-bark employed as a mulch on the melon hills, has prevented the destructive effects of these black melon bugs. It is proper to say these experiments had reference to melon culture under glass and one of the most interesting of the series of letters on this subject contains the following resume from one grower and the detailed experience of others:

1st. "Since the year when the puceron noir (black vine fretter) appeared in the culture of the Curcurbitacees (melon and vine family of plants, cucumbers, &c.,) at Paris and elsewhere, no means tried had been completely successful, and the crop was more or less compromised according to the time when the insects made their appearance.

2d. The employment of fumigation with tobacco, even repeated every day, even syringing with water of nicotine, were only palliative.

3d. The fresh tan (moist and fresh from vats I presume) that I have used like straw as a mulch, (Winter and Spring of 1872 and '73) in my forced culture, has been a remedy completely efficacious; it is due without doubt to the evaporation of the tannic acid concentrated under the sash."

The same writer further states that in the season when dry weather follows, no evaporation occuring from the tan, the puceron coming again to their work, watering the tan, with closing the sash, the bugs are all found destroyed in a few hours from a removal of the evaporation by the sun's heat. The covering of the hills by the tan should not be too thick, from which some had experienced injurious effects, and the editor remarks that "the use of tan is good; what is bad is its abuse, (too much) and who knows, but that with dressings made from this water of tan bark, we shall not be able to rid ourselves of pests which have heretofore resisted infusions of

tobacco or of black soap," (possibly carbolic acid soap.)

Just here and in conclusion permit the writer to observe that he has found the best *remedy for bugs* on the melon family of plants to be, selecting new land for the crop, avoiding for two years lands that have grown the crop, plaster and hand-work the young seedlings as soon as through the ground, repeat the hand-working around the plants and plastering after each rain, look over the melons every few days, until they get sufficiently strong and well established as to withstand all attacks made by our sap-sucking melon bugs.

Potomac Fruit-Growers' Association.

APRIL MEETING—SUBJECT: THE PEAR.

Messrs. Editors American Farmer:

This was a very interesting meeting. The president and Col. Pitts read papers *doing* the fruit historically. Another meeting will more fully develop the whole subject.

As the papers were not complete, the after discussion was discursive, but practical.

Three good pears after the Bartlett and Seckle, would be Lawrence, Howell and Beurre d'Anjou. Lawrence is the best winter pear; the d'Anjou, if the leaves do not drop early and the fruit be kept in a cool cellar, will be fully ripe in February and is second only to the Lawrence. But for real profit few pears will outdo the Howell. It ripens before the other two; it begins to bear young; the flavor of the fruit is good enough and it is very nice for preserving.

Col. Curtis gave some items of interest from *the Horticulturist* on the

Profits of Pears.

Mr. Jno. Taylor, Elba, N. York, seventeen years since, planted three acres of the Duchesse. Cost of trees, $500. Preparing and planting $200. Interest $490. Total, $1,190.

The seventh year the crop was 20 barrels, which sold for $200. The eight year, 180 barrels sold for $1,080; the ninth year, 230 barrels sold for $1,100; the tenth, 204 barrels sold for $1,122. Total sales, $3,502.

That by a little pains in keeping the fruit until later in the season larger profits may be realized. For instance, when but from $6 to $8 could be realized for Seckel, Bartlett and Duchesse in the early part of their season, a fortnight later they would sell for $15 to $20 per barrel.

From the *Prairie Farmer* an item was given that for several years the editor's pear trees were not a success, but after the use of wood ashes as a fertilizer they had done well.

Close Planting and Mulching.

Trees close planted protect each other from the wind and weather, and the ground is shaded and kept moist. When the limbs meet it is easy to thin out the trees. Ten by ten, or ten by twelve feet, is a good distance.

Those who have not tried it cannot realize the almost indispensable benefit of mulching. Mulch with forest leaves and when they are decayed fork them in.

Pruning.

Major King said, when your knife is sharp; the president, after the March winds; Mr. Wm. Saunders, don't prune at all unless to cut out cross branches.

The Blight.

Major King believed, was referable to the sudden changes and the variableness of the season. The president, that the immediate cause is heated sap; and that therefore a free circulation of air ought to be maintained. Major Williams thought the principal cause is microscopical insects. Had used charcoal with success and also mulching.

Miscellaneous.

The Vicar of Winkfield is Major Williams' favorite pear. Pear trees are long-lived. Some were mentioned in Virginia over 100 years old. The leaves *dye* yellow. The best soil is a clay loam. Our Seckels are twice the size of those in New Jersey.

Major Williams' remark on the blight gave rise to a discussion of the yellows—though we are not troubled in this region by this disease—and Col. Wilkins was quoted as authority that it is produced by an insect.

The only reliable remedies for the peach borer are the knife and the exposure of the roots of the trees in Winter.

On the tables of the Association were samples of apples of Ortley, Wine Sap, Limbertwig, Spice (of N. J.) and Winter Blush varieties.

Washington, D. C. G. F. N.

The Pear Dr. Jules Guyot.

[*From La Revue Horticole.*]

When a seedling pear yields three successive crops of fine and good fruit, we ought to preserve it. When grafted, and its product gains in size and quality, we should propagate it. This is the case with the pear tree—Doctor Jules Guyot.

In fact, the seed from which it sprang was sown a dozen years ago, by M. Earnest Baltet, and was developed in the midst of other seedlings of the same age; it surpassed them all by its vigor of growth, as well as by its early fruitfulness. Grafted at the school, on young stocks, its branches, from the second year, filled themselves with fruit.

Multiplied in the nursery, its subjects, although grafted *sur franc* (not seedling pear stock, I presume, but what we term double working on stocks already worked by budding or grafting,) fruiting the third year, whilst its neighbors of other kinds remained unproductive except the Beurré Clairgeau and the Beurré Baltet Père.

The specimen which has served as the model to the designer of the engraving herewith presented, has been gathered from a young tree in the nursery. We have, then, the right to affirm, that from an older tree or from one budded on the quince, larger fruit will be obtained than we have gathered in 1873. The flesh is fine, breaking, juicy, sweet (*sucrée*,) with an aroma which gives it an agreeable flavor. It ripens the second week in August. The Williams (the Bartlett of America is known, at least written of over the water, only as Williams' Bon Chretien,) whose

musky flavor does not please everybody, is *preceded in its maturity* by three varieties of the first order: The seducing *Favorite de Clapp*,—the valorous *Docteur Jules Guyot*, the succulence of *l'Assomption*, *each* indispensable in a plantation d'Elite.

The Pear Dr. Jules Guyot is of a good size, pyriform or calebass form, sometimes acute, sometimes obtuse towards the stem end, often flattened toward the blossom end; its color, at first, is sea-green (vert de mer,) passes to a citron yellow, sometimes watered with rose, but it is susceptible of remaining yellow until mature, lightly herbaceous.

According to our observations, the pear *Docteur Jules Guyot* unites the necessary qualities for admission into either garden or orchard, among fruits proper for market or family use. The vigor and fertility of the tree leaves nothing to desire.

The establishment Baltet Freres à Troyes has sent it for sale in the market since the year 1873, and dedicated it to our eminent viticulturist, Doctor Jules Guyot né à Gyé sur Seine (Aube.)

CHARLES BALTET,
Horticulturist at Troyes.

NOTE.—There are sundry points which impressed the translator in the above notice of this pear:

First, its size; the plate, if a correct representation, shows it to equal the Duchesse, and surpass our largest Bartlett from young trees; its color is good, and its skin, from appearance, will bear shipping well, and, although not so knobby as the Bartlett, its sides are not so regularly smooth as fine specimens of Beurre Clairgeau.

Second—The time of ripening for Tidewater Virginia and Maryland would materially increase its market value over the Bartlett.

Third—Its early fruitfulness on its own roots, and a vigorous grower adapting it well to orchard culture.

Except the Duchesse and Bartlett, the many hundred of promising foreign varieties have so far *not* proved of high value for pear-growers in our varied climates and soils; something always occurs as to health of trees or fruit, time of ripening for market, to disappoint us and mar the profits of culture. We have a pear—Moore's Pound—Hosenschenck—of much local celebrity as a market fruit in this *immediate section*, which meets all the points of value claimed for this French seedling, except the rapid growth and early fruitfulness, both of which defects might, perhaps, be obviated by double working on budded kinds of peculiar vigor and rapid growth.

It will be observed that this French nurseryman carefully gives his name and address.

NANSEMOND.

Exchange, Va., March 28, 1875.

[Our correspondent has forwarded us the copy of the plate, which is worthy of inspection by those who are admirers of fine pears. It can be seen at the office of the *American Farmer.—Eds*]

Yellows in the Peach.

Mr. Meehan says there may be many causes of this disease. The direct cause is imperfect nutrition; the many causes which affect nutrition must be understood before a remedy can be named. In the only cases he has had the chance to examine personally, the primary cause was a parasitic fungus, which, like threads of silk, attacked the small feeding fibres and destroyed them,—thus in a measure starving the tree. Examine your roots and see by the aid of a pocket-lens if these little fungoid plants are there. A mushroom-like smell will aid in their detection. If this is the cause of your yellows, lime, potash or similar substances may destroy them and lead to the recovery of the plant. The discovery of this cause, however, is so recent, that these directions are rather suggestions than the results of any real tests.

REMEDY FOR MILDEW.—Dr Siedhoff says, in the *American Garden*, that molasses, mixed with an equal quantity of water, and applied to gooseberry bushes with a syringe, causes the mildew to disappear. He has tried this for several years with satisfactory results. It is better to take more water than molasses, and the efficacy of the remedy seems to come from the exclusion of the air from the leaves, by forming a thin coating, which thus suffocates the mildew. The first rain, however, dissolves and carries it off.

Floriculture, &c.—May, 1875.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Lawn and Pleasure Grounds.

We do not remember a Spring which proved so cold and backward as the present one; therefore much labor in the way of planting, preparing for the same, and making improvements generally, must necessarily have been delayed.

The more simple the design, and plain the way we set about effecting any improvement in the embellishment of grounds surrounding private residences and public institutions, the better; but in carrying out this idea, permanence or enduring nature of the material used should constantly be kept in view. Thus we too often see drains put down, to carry off spring and surface water, that have not the capacity to do so, and the first flood that comes chokes them up, and to reopen or lay anew an old drain or water conductor, costs more than putting down a new one; and so it is also in the construction of roads and walks, for where a substantial base of stone or gravel is not put down, no lasting comfort in travel can reasonably be expected. The same reason should govern the preparation of grounds for the planting of trees, &c. Notwithstanding all that has been written on planting, people, in general, do not appear to take up the idea, or entertain the proper notions which should govern them in the performance of this important work; for we find that both the gardener and farmer, so soon as they discover that their land is too wet to work for other purposes, and if planting is to be done, they then repair to the nurseryman to secure the trees, and plant while the earth is in a wet condition; consequently it cannot be distributed properly among the roots, and should dry weather set in, the whole becomes a solid hard mass, quite impervious to delicate rootlets, and if immediate death does not follow, then it extends itself in a lingering condition of sickness. This is no dream of ours, for we see evidences of

its baneful effects almost every season; therefore, we say, never plant except when the earth is so friable that its particles will fall readily asunder when thrown from the spade or shovel.

Evergreens can be moved with safety from this date on to the first of June. Make the holes large, spread the roots well out, and see that they do not get dry between the lifting and planting. Deciduous trees that have been taken up early and trenched in, may still be moved on a favorable day to where they are wanted, and, as the Spring, as we before remarked, has been cold and backward, herbaceous perennial plants can yet be divided and fresh beds made of them; also, all hardy plants that have been wintered over in the cold frames should be planted out as soon as possible, but the bedding-out of Cannas, Dahlias and Geraniums had better be postponed till about the middle of the month.

The grouping or massing of plants in the flower-garden, so as to produce a chaste effect in the blending of colors of flowers and foliage, either after the ribbon fashion or promiscuous arrangement, is a matter or work involving some considerable taste or judgment, and on which we have descanted freely in former articles; but in all endeavors in this direction try and preserve harmony in the colors, avoiding all glaring contrasts. The gardener, to effect this purpose, has various kinds of Lantanas; these prefer a poor soil, in which they bloom profusely; and then there is the scarlet and white-flowering Sage, Heliotropes, Tuberoses, Petunias, Verbenas, and Geraniums, pink and scarlet; and those plants with dashing, gay foliage, as Achyranthus (Irisine,) Coleus, &c., and as a contrast in the pale silver shade, there is the Gnaphalium tomentoso, Centaurea candida, Cineraria maritima, and Artemesia stellariana; but yet, with all these beauties to be had, we still do not know of a more grateful flowering plant than the Nierembergia gracilis, which, in dry situations around Baltimore, withstands our Winter frosts, and harmonizes well when grouped with the Heliotrope and blue Eupatorium.

For the formation of screens or the shutting out of unsightly objects, either erect or on the surface of the ground, we know of nothing to surpass the white-flowering Japan honeysuckle, as it forms rapidly a dense mass of closely netted stems and foliage. The Chinese variety, though growing as rapidly, is not so neat or desirable for the purpose we mention.

Grass edgings should be pared, walks cleaned, and, together with the lawn, well rolled soon after a rain. Box edgings ought to be trimmed so soon as all danger of frost is past.

Greenhouse.

In this department we would recommend that the more hardy plants be removed by degrees to the open air, where they will receive shelter; this will afford place inside for the growth of such summer-flowering things as Begonias, Fuchsias, Clerodendrons, Caladiums, Achimenes, Gesnerias, &c., all of which should be shifted into proper-size pots, trained and nurtured, so as to present a respectable appearance. Various kinds of the Epiphyllum section of the Cactus tribe will now be showing flower, when they will require a larger allowance of water and abundance of light.

While Camellias are making their growths, give them a partial shade, and a free supply of water at the root, syringing the tops with soft water early in the morning during clear weather; the same regimen ought also to extend to Azaleas while they are making new wood, with this difference: they require more light.

Arrangement of Flower Beds.

Editors American Farmer:

As the season is fast approaching for bedding out our Summer plants, I would like to say a word in regard to arrangement.

We think it should be borne in mind that evenness of surface is one of the elements of beauty. This being admitted, it follows that nothing should be of sufficient height to intercept the line of vision and break up unity of expression, compelling us to look at it in detail only. Every bed and every part of a garden should be beautified in itself, but all should appear subservient to the whole.

For this reason, we think, places having only a limited area of pleasure-ground, should not attempt too much of the canna, castor-oil bean arrangement, ycleped, "sub-tropical;" not that we have any quarrel with sub-tropical gardening; on the contrary, we think this is *the* climate for that kind of display, and where the material is obtainable, something grand might be done; but last season we saw places of considerable pretension so *be-canna'd*, that it seemed a relief to get beyond and take a distant view. Again the arrangement of colors is a matter deserving more attention than is sometimes given. Beds of geraniums, with many shades of scarlet and many styles of growth, indiscriminately mixed, regardless alike of harmony and of contrast, and perfectly ignoring every element of beauty. Suppose a bed to contain fifty scarlet geraniums, would it not be more pleasing to the eye if they were of one shade of color and of one habit, say of geranium, General Grant, Arthur Pearson, General Lee, and so of the rest?

Again, a bed of white-leaved plants, edged with scarlet, is not so beautiful as a bed of scarlet edged with white.

Fifty plants of verbena—Mrs. Woodruff, or of Defiance—would make a gem of beauty, while a large bed containing five hundred offends by its excessive glare. All such masses of brilliance require toning down or softening by broad margin of complementary or contrasting hues to impart a charm of subdued beauty.

Foster's eloquent definition of a Summer's morning is "softness without melancholy, and brilliance without glare." Such, also, should be the aim in grouping and arraying a flower garden.

And before closing this I would just say a word about unsightly fences, waste corners, &c. These might, with little trouble, be clothed with beauty, the rapidity with which many of our most beautiful climbers grow entirely precludes excuse for the unsightly fences which are sometimes seen adjacent,—sometimes, indeed, enclosing a flower-garden.

N. F. F.

Bedding out Plants.

From the valuable paper, read by Mr. John Feast at the last meeting of the Maryland Horticultural Society, referred to elsewhere, we make the following extracts:

The demand for bedding plants has so much increased, that where the grounds are extended, it requires thousands to satisfy the requirements. These plants are not now confined, as formerly, to verbenas and others of a similar character, but all plants which flower during the season, and which can be used for decoration; besides, also, what are termed foliage plants, which add greatly to the beauty of grounds when properly arranged by the hands of a skilful and experienced person. Indeed, this branch has become so popular that many florists raise few other plants, losing all interest in plants which are rare at this time, save where there is a natural love for plants.

The taste for new plants has revived of late, and will, in a few years, increase the number of bedding-out plants. Of those plants now in cultivation, which, if properly planted in clumps, or as single specimens, have a fine effect, I will enumerate a few that give that oriental style so much appreciated.

Grounds may have fine specimen trees or choice evergreens, and still want something to relieve the prevailing monotony. A diversity of foliage, properly dispersed, should be aimed at to give effect, and plant, in addition, such genera as Bananas, Alocasias, Dracænas, Arums, Agaves, and Yuccas. Caladiums also make fine bedding-out plants, contrasted with Zepharanthus alba, which gives a profusion of bloom, its white liliaceous flowers lasting some time. The pampas grass, with its tall reeds and flowers of a silvery cast waving in the wind, is quite ornamental, as is also the Erianthus ravennæ, another tall-growing grass.

The Panicum bambusa and Zea Japonica or striped maize also produce good effects.

Then we have the Erythrina, or coral plant, with its large scarlet papilionaceous flowers, continuing in bloom till frost, when the roots may be taken up and put away like Dahlias, than which planted out deserves more attention for decorative purposes. The Hibiscus sinensis of varieties form a fine class of plants flowering during the Summer and Autumn. The much-neglected Oleander with its varieties is one of the most abundant flowering plants in cultivation, and one which, though common, holds its position with most hard-wooded plants.

Many foliage plants have a pretty effect when skillfully planted so as to blend the different colors artistically. This ribboning system practiced on a large scale I have observed at the Crystal Palace at Sydenham, where the effect is fine; yet I may state that I have seen bedding out even on a much larger scale at Erfurt in Prussia, where from fifty to a hundred acres are planted out, the seed being raised for exportation. As far as the eye can distinguish the different colors are separate, each covering a large space of ground and producing an effect beyond description.

Notes from Mr. Meehan.

In the *Gardener's Monthly* for April, in answer to several correspondents, the editor gives the following list of plants:

Pot Geraniums of Dwarf Habit and Fine Form.

The following are good: Master Christine, Mademoiselle Nillson, Christabel, Belle Helene, Leonidas, Black Dwarf, Louis Veuillot, Madam Van Houtte and Bridesmaid.

Best Six Window Plants.

To an inquirer asking for such as are of handsome habit of growth and of long-continued flowering during winter, the following are recommended as easy to procure and easy to grow: Chinese Primroses, Zonal Geraniums, Tree Carnations, Heliotrope, if there is light enough, Cyclamens, and the common Abutilon.

Best Evergreens for Pots.

An Orange or Lemon, an Italian Myrtle, a Laurustinus, gold-blotched Euonymus japonicus, Euonymus radicans and Ardisia crenulata.

Best Window Foliage Plants.

Taking it for granted something very easy to grow and procureis desired: Variegated Veronica Speciosa, or some of the variegated varieties of the shrubby Australian species; variegated Agapanthus umbellatus; Abutilon Thompsoni; Epiphyllum truncatum, grafted; Tradescantia discolor, and Aralia papyrifera.

Kerosene Oil for Insects.

A correspondent of the *Gardener's Monthly* says the simplest plan to use this substance to destroy insects on plants is to make some moderately strong soap suds and mix a little oil with it. It readily combines with the suds and can be then applied uniformly with a syringe. It is the best thing for mealy bugs and may be used in dilution suited to the nature of the plant requiring treatment.

A Beautiful New Plant.

Mr. John Saul, in his catalogue for 1875, gives a very showy colored plate of the new Pelargogonium, "Queen Victoria," and describes it in the following terms:

To say that this is handsome conveys but an inadequate idea of it, for it is the most marvellously beautiful and novel variety ever offered.

The flowers have peculiarly crispy petals; they are not really double, but from their fullness of form and extra number of petals have the appearance of being so. The color is a rich vermilion, all the petals broadly margined with pure white, and the upper ones blotched with maroon. The contrast of the broad white margin with the vermilion ground color makes the flower extremely pleasing and attractive.

Improving Plants by Pinching and Pruning.

"How shall I grow my plants compact and symmetrical in form?" is a question, says Long in his *Home Florist*, frequently asked by amateur florists. It is a simple matter, and is accomplished by judicious pruning and cutting. In nearly all kinds of flowering plants, excepting

those grown from bulbs, also in trees and shrubs, buds are formed at the axis of the leaves along the stem or branches, while the growth proceeds from its termination. This, in perennials, if not checked, continues to grow, and usually causes a tall or unshapely form, but by cutting off at any point, or by pinching out the terminal buds, new shoots start out at the leaf joints below the cut, or if already started, commence to grow with increased vigor, and will in due time result in a better shaped and more bushy plant or branch. Pruning or pinching should be more generally resorted to than it is, for, by observing the principle of growth just alluded to, and varying the pruning to the habit of the kind, it is just as easy to have your plants either in the house, conservatory or garden, of fine form, as to have them otherwise, and they are so much more rewarding and agreeable to work among. Little danger exists of cutting away too much; persons who resort to pruning frequently err in cutting too little. Old plants with long leafless branches may be entirely reshaped by severe pruning.

Agricultural Calendar.

Work for the Month—May.

With us the season has been very backward, and as we write—April 20—we have tidings from every quarter of destructive frosts. It is likely, therefore, that, generally, much work will be crowded into a little time. This ought not to interfere with the proper preparation of the soil,—since upon that, more than upon any after culture, will depend the success of the season's crops, and better delay to secure it than expect to make amends for deficiencies later.

Corn.—This crop has been called the sheet-anchor of American farming, and undoubtedly it is of very great importance and value. It is likewise probably the most generally profitable crop that we grow, and one, too, that gives generous returns for any and all good treatment it receives. A good sod will usually give the best returns, but this crop is a hearty feeder, and will thrive on any soil supplied with plenty of plant food and kept moderately clean of weeds.

Our ideas of proper cultivation coincide very strictly with those of our correspondent L. W. G. These views were long held and pressed upon the attention of our farmers by the *American Farmer*, and as far back as 1854 will be found the following on this point in the work for the month for July of that year:

"Corn is a crop that must be kept clean from the time it is high enough to work until laid by. It thrives not in the companionship of weeds and grass: it requires not only to be kept clean, but that the soil shall be so kept as to avail itself of the food which Providence has provided for it in the atmosphere, in the dews and in the rains. But these conditions of the soil can be better secured through the agency of the *cultivator* than by that of the plough. The cultivator penetrates the earth sufficiently deep to open the soil and prepare it to receive all the advantages derivable from the air, from dews and from rain, while it does not disturb the roots, by tearing them asunder and by laceration. Whereas, the plough, when that is used, goes so deep as to inevitably produce the evils just spoken of. The plough, too, goes so deep as to turn up the manure to the action of the sun, and, as a consequence, to have all its volatile parts—its nutritive principles—lost by the processes of exhalation and evaporation. How often do we hear corn-growers say, that their corn eared well, but that the ears did not fill out well with kernels! Now, what is the cause of this? Why, mainly, because, through the instrumentality of the plough, the *feeders* of the plants had been cut off at the very time when the materials for the formation of the kernels were most needed, and when, from the injury to the roots, a *cessation* in the supply had necessarily taken place."

The whole object in cultivating the crop is to destroy the weeds and keep the soil open and loose. The latter, so that it may admit air and moisture to the roots of the plants. This is entirely prevented when the surface becomes caked, an unpermeable crust shutting out the influences most needed for the growth of the crop.

Potatoes.—The crop of these put in will, undoubtedly, be very limited this year, compared with most seasons, on account of the anticipated ravages of the Colorado beetle. We are disposed to believe that this will be a mistake, since it only needs a little energy and determination to conquer this enemy. Mr. Suel Foster, a well-known farmer of Iowa,—where they have long had this pest—says these potato bugs will cost them there "$2 to $2.50 per acre to raise potatoes." This certainly is a very insignificant sum, and if they are so cheaply defeated there is no reason for abandoning the cultivation of the crop.

For this crop the soil should be deep and well pulverized, otherwise the droughts of summer cannot be encountered without periling the field. None of our crops are more benefited by subsoiling than this; the deeper the ground is broken up the better the security against drought.

The manures which produce the most satisfactory results on potatoes are thoroughly rotted composts, or mineral fertilizers like superphosphates, ashes, plaster, &c. It is well known that unripe, green manures, injuriously affect the quantity and especially the quality of the product. A dusting of plaster over the vines is advantageous.

Some experiments conducted under the direction of Prof. Voelcker, and published some time ago in the Journal of the Royal Agricultural Society, gave the following results on special fertilizing of the soil for this crop:

1. The greatest came from the application to an acre, of 400 pounds of mineral superphosphates, 200 of potash salts and 200 of sulphate of ammonia.

2. Barn-yard manure was found to answer every purpose equally as well.

3. The absence of ammonia was attended with a marked falling off and nitrate of soda cannot replace it.

4. The compound above named beats Peruvian guano.

5. Common salt does no good, but harm, to potatoes.

6. The above mixture gave a crop of 12 tons (or 448 bushels) to the acre on light land, and the same, unmanured, yielded but half.

Root Crops.—Our strenuous advocacy of the use of these, wherever any live stock is kept, is known to our readers. In our last we gave some suggestions concerning them, and we refer to them here again to say that these crops must be kept well worked. To any one who has not sown any roots, we would commend a trial, even at this late day, of a limited area. On a very small patch, provided it is well manured and properly prepared, they will demonstrate their own value.

Millet.—Where grass is short this makes a good substitute. The crop matures very rapidly, and the yield is good. The hay is nutritious, and is relished by horses and cows both. It will not answer to sow on poor land; but from land in good heart, it will give from two to three tons of hay to the acre. It may be sown any time during this or next month or the first half of July, maturing the crops in from nine to ten weeks. It should be cut before the seed ripens, otherwise it will make very poor fodder. About a bushel of seed to the acre, sown broadcast and lightly harrowed or brushed in, is the quantity generally used.

Broom Corn.—This crop needs the same general treatment as Indian corn, doing best on a rich, light, warm soil, which ought especially to be carefully put in order. Thick planting produces better brush than the reverse. An inch is about the best depth to plant the seed, and, in hills 3x4 feet, leave 5 or 6 plants to the hill. Do not allow the weeds to more than show themselves. The cleanest cultivation is desirable, and pays well.

Tobacco.—The date of setting out will necessarily depend upon the condition of the plants. Carefully see that the beds are kept clear of grass, and give frequent top-dressings to force the plants on. In the workings of the ground heretofore ploughed, the grass turned under should not be disturbed.

Fodder Corn.—If to be cured, the earlier this is sown the better. That for soiling purposes may be sown in succession up to the last of July. The land ought to be well enriched, and in that condition it will yield a great quantity of excellent feed. The best plan for securing the best yield and for convenience in cutting is to sow in drills about three feet apart, the grains being from nine to ten to a foot. Cut when the corn is in full tassel, and put up in small shocks to dry, or pile thickly against the fences.

Pumpkins.—These ought not to be overlooked in the provision made for winter feeding. They can be readily grown in with the corn, and are palatable and useful for cows. Put in as early as convenient, give each hill a good supply of rich manure, and keep a keen eye for the striped bug. Hand picking is useful against this trespasser if persevered in, but it is better to dust the vines when the dew is on with a mixture of plaster and ashes, to which has been added a little sulphur and Scotch snuff.

Maryland State Agricultural Society.

The meeting for April was held on the 1st ult., A. B. Davis, Esq., president, in the chair, who congratulated the members on the bright and beautiful Spring day upon which they had assembled.

The committee appointed to confer with the Horticultural Society and the Maryland Institute, with a view of securing general co-operation between those societies and the State Society, asked for further time, and expected at the May meeting to make a report.

The subject for discussion for the day was, "Dairy Farming," and Mr. W. H. Fairbanks opened the discussion. [As Mr. F. has promised to furnish us with a copy of his remarks for publication in the *American Farmer*, we abstain from giving any abstract at present, farther than to say, that he spoke of the great value of lucerne, and considered it only second to clover as a soiling crop for dairying,—that his attention was, twenty years ago, drawn to the value of it by the editor of the *American Farmer*, then present, and he had realized its great importance since. The great difficulty about this grass, he said, is that it cannot be grown easily, as the warm summer sun kills the young shoots, and it is only in damp, shady places that it thrives well.]

Mr. Sands having been referred to by Mr. Fairbanks, confirmed all that that gentleman had said upon the subject of its value as a forage plant, and referred to a lot on the edge of the city, upon which Mr. Popplein had raised it successsively for many years, and the luxuriance of which could be witnessed at any time after the opening of the season. [Mr. Popplein subsequently informed us that he had sent to Europe for a thousand pounds of seed, and that it was his intention to sow thirty acres in lucerne. He has also promised to prepare a paper upon the subject of its cultivation. In the meantime, we present, from the work on grasses, by Mr. Howard, noticed elsewhere, a very complete description of the plant, its value and mode of cultivation.

Under date of April 14, Mr. C. E. Coffin, of Prince George's, Md., who has heretofore on several occasions called attention in our pages to the importance of this crop, sends us a sample of lucerne,—a fair one, he says, from a field of two acres. The sample measures eight inches in length.—*Eds. Far.*]

In reply to a question asked him, Mr. Fairbanks said that he had known lucerne to be fed as early as April 10th, and to be continued as late as September.

Mr. G. W. Lurman, of Baltimore county, then read an essay on dairy farming, a copy of which he furnished to the editors of the *American Farmer*, and which will be found under the heading of our "Dairy" department.

Mr. Haviland, of Harford county, followed on the subject of dairying, confining his remarks to the co-operative system of cheese and butter making, giving a brief history of the rise and progress thereof, the main features of which have from time to time appeared in the *Farmer*. Mr. H., in concluding his remarks, added:

"From the most reliable information I have been able to get, as to the amount of milk for a

pound of butter of mixed quality, such as is generally received at factories, from twenty-two to twenty-six pounds, which would be from eleven to fourteen quarts. One quart of milk averages about two pounds.

"In the selection of a site for a factory, an abundant flow of water is the most essential requisite. A spring that will fill a two-inch pipe of ordinary play, without any head, is thought to be sufficient for the milk of four hundred cows. The site should be favorable to thorough ventilation. Good butter can't be made in a tainted atmosphere.

"I will reply to one more question, and close the article. Does a cow pay in comparison to feeding cattle? In a recent visit to some dairies in Pennsylvania, I saw a dairy of 100 cows, the butter from which was sold for $10,000, the curd for $3,000, and pork for $600, which made over $130 per cow."

Mr. William Warner, of Harford county, thought that if farmers could get from thirteen to fifteen cents a gallon for milk it would pay much better than butter. He had tried dairy farming, and would have continued it but for the difficulty he had experienced in getting good men to milk his cows. The only losses he had met with while in the business was by the returning of sour milk by the city dealers.

Mr. A. B. Davis then made a few general remarks on dairy farming, and exhibited drawings of improved stanchions for cow stalls and dairy stables

On motion, the subject of "Barn-yard Manures" was made the order of the day for discussion at the May meeting.

Baltimore County Gunpowder Club.

Messrs. Editors American Farmer:

The Gunpowder Agricultural Club met on the 17th inst., at the residence of Dickinson Gorsuch. Edwin Scott presided. Among the guests present were Henry Carroll, Jr., and A. T. Love.

There were two machines on hand for trial—a subsoil attachment and the "Granger" cultivator. Owing to a trifling fault of construction, which could be easily remedied by any blacksmith, the attachment was not put to work as expected. This attachment can be fastened to most furrow plows, its place being immediately below the mouldboard heel. It reminds one of a plow shovel in a horizontal position, and is said to add but slightly to the draft as explained by the agent, Mr. Love, of Cockeysville. The attachment made a favorable impression, and members seemed ready to admit its practicability in advance.

The "Granger" was set to work more to gratify the curiosity aroused by its novel construction, than from any expectation of practical results at this season. Of course, the only test admissible must be made in growing crops later in the Spring. The machinery committee of the club has the implement in charge, and will give it due attention and a fair chance at the trial of corn-working machines, which will take place when the plant reaches the required stage.

On the walk over the farm, we passed through a field of twenty-four acres, in which we saw some interesting experiments with various commercial fertilizers on the growing grain crop. In one place Whitelock's Vegetator had been applied at the rate of 120 lbs. per acre, on ground which had, at the same time, been treated to a good dressing of compost made of yard manure and earth. The effect is very decided, fully doubling the growth in comparison with an adjacent strip where the compost had been used by itself.

Again, beyond, where the compost stopped, the Whitelock had been put on at the rate of 300 lbs. per acre. Here the grain, in appearance and growth, falls quite thirty per cent. behind that on which both fertilizer and compost had been applied. In another part of the field we found the Whitelock, fertilizer of the Md. Co. (called here "Sangston,") Poudrette and the Animal Fertilizer on alternate lands covering a breadth of several acres, and put on broadcast. There was scarcely any difference perceptible between the first two named, and though the Poudrette falls somewhat behind, it is, in fact, quite equal to the first two from a money view; its cost being far below them.

Owing to a press of business, the customary discussion was not reached till a late hour, and then but two names were called. The subject runs as follows: "Can we profitably raise fruit and vegetables for market? Which are the best kinds, and what treatment should they receive for successful production and preservation?"

Mr. N. R. Miles thought there are some which can be raised with profit. If compelled to confine himself to any fruit, it would be the apple. It requires less labor than most others. Last year he could not get enough of the early strawberry to supply his customers. The Summer Red Streak is very fine, large and salable; for Fall his best are Smokehouse and Rambo; for Winter—Long Island Russet and Tewkesbury Winter-blush. The latter keeps late; the only objection to it is a slight toughness of skin. It is not a good plan to have many varieties. To preserve, his plan has been to barrel from the trees and store in the cellar at once. Those picked after frost have kept best this year. Thinks the air should be excluded as much as possible. The same variety has kept much better for time headed up in barrels than stored in fruit boxes. He does not consider pears profitable on account of the blight. The Bartlett and Seckel are the only two varieties he would plant. Cherries are profitable if we can raise them, but nursery trees commence dying about the time they come into bearing. The best way to raise is to get our common stocks four or five feet high and graft into them. He had a fine crop last year from such. Grafts grew very fast. In answer to a question Mr. M. said he left no branches to draw off the sap. [D. Gorsuch said he had killed grafts from trimming so close.] Peaches do not pay. They take three or four years to come into bearing, then bring a crop or two and are done. He does not consider small fruits profitable; they require too much labor to bring into market. If he cultivated strawberries at all, he would plant every year. In the older beds weeds become a great annoyance. He does not believe there is any variety preferable to the Wilson; there is none that will bear equal to it if sufficiently manured. He would set out in July on a clover bed, cultivate till August to keep

down weeds and then cover with manure which must be permitted to lie till after the plants bear the next season, otherwise the grit will ruin the fruit. If spattered on by rain when the berries are half grown, strange to say, it will stick there till they are gathered. Of vegetables, tomatoes and lima beans can be raised with profit.

Crop report of Edwin Scott. Corn crop—first field, 10½ acres, yield 150 brls. Meadow sod of five years' standing; applied 30 bushels lime per acre on the sod two years previous to planting. Ground ploughed in Fall with large three-horse Davis plough and thoroughly prepared; planted 2d May without manure or fertilizers of any kind; checked out 3 feet 6 inches square; seed dropped by hand and covered with hoes; thinned out to 2 stalks in the hill; plaster was dropped on the hill; worked well with Davis' drag and shovel plows. Second field—meadow sod three years standing; had no lime, but two-thirds of it was covered with barn-yard manure; ploughed in the Fall, and treated exactly as first field; yield, 96 brls. Lot of 2½ acres, yield 50 brls. This was also an old sod of several years' standing; mowed some seasons and pastured some, the sheep running on it from Fall to Spring; was covered with manure previous to plowing, which was done by May 20th; planted 22d; about one-half of the ground was laid off by running two rows close together—say, 9 inches apart with a small plow, then leaving a space of 5 feet, and then running 2 more. The corn was dropped in there from 1 foot to 18 inches apart, being particular not to have the hills opposite each other. The balance of the lot was planted in step corn, running the rows about 4 feet apart; Whitelock and salt dropped on separate hills, produced no difference in yield.

Wheat—Fultz—Six acres clover sod, applied 200 lbs. Whitelock per acre broadcast, drilled and rolled afterwards; yield, 138 bushels; amber—eighteen acres, part corn ground, and part wheat and oat stubble, a portion treated to barn-yard manure; on the rest no fertilizer was used; yield, 226 bushels. Oats—5½ acres, yield, 185. Rye—4 acres, yield, 80 bushels, 7 tons straw. Grass, 50 acres mowed, yield, 75 tons. Potatoes, 60 bushels on 1 acre.

Crop report of I. M. Price: Wheat—12 acres, treated to barn-yard manure, Whitelock and salt; where Whitelock and manure were applied conjointly, yield was better than where used separately, but best of all was where 2½ bushels salt per acre were applied with the manure. Five bushels Fultz on 2½ acres gave 72½ bushels, or 29 bushels per acre; total yield 243½ bushels. Oats yielded 15 bushels per acre. Rye, in corn ground, 6 bushels per acre. Hay averaged 1½ tons on 40 acres (timothy and clover; mixed and clover.) Corn—15 acres, plowed in spring, on which were applied after plowing, twenty-five four-horse loads of manure, well prepared, and worked off one way, with rows four feet apart; hills two feet apart. First working was with smoothing harrow, as soon as corn was high enough to be seen, then with cultivator and three times with double shovel,—yield 150 barrels.—Prize acre (156 perches) manured with ten cords stable manure on sod, half-barrel plaster, and twenty-five cart loads hog-pen manure, applied on plowed ground, gave a yield of sixteen barrels, four bushels. Potatoes a failure on account of bugs.

The club adjourned at a late hour, to meet May 15th, at residence of T. T. Gorsuch.

Balto. Co., April 22, '75. T. G.

The Maryland Agricultural College.

Meeting of Stockholders.

The annual meeting of the stockholders was held, as required by the charter, on the 14th ult. The personal attendance was small, and at the time the ballot was taken there were only ten persons present entitled to vote. Four of these were members of the board of trustees, one was a professor in the college, and five were owners of stock or holders of proxies.

The meeting was organized by Mr. A. Bowie Davis calling Mr. Otho H. Williams to the chair, and Major F. A. Soper, the register of the of the college, was requested to act as secretary. On motion, the chair appointed Messrs. James T. Earle, N. B. Worthington and Chas. B. Calvert a committee to examine proxies. This consumed considerable time, and finally, after voting to throw out all doubtful or disputed proxies, the committee reported that there were 5,778 shares of the capital stock of the corporation represented either by its owners in person or by proxy.

Mr. Davis then offered, as customary, his report, as president of the board of trustees, to the stockholders, on the condition of the college, and the secretary proceeded to read it. Near its conclusion, Mr. Earle rose and objected to its being heard unless Genl. Jones the president of the college, was present,—contending that it was not a report from the board, but the individual views of a single member, and that as the statement reflected seriously upon Genl. Jones, they ought not to be heard in his absence. President Davis said he had no objection whatever to the presence of the General. A vote was taken and he was invited to attend the meeting, and a messenger was so dispatched to find him. The report of president Davis will be found below.

Mr. Chas. B. Calvert objected to the reception of the report, on the ground that it was not sanctioned by the board and could not be considered as emanating from that body.

Mr. Earle also spoke against hearing the report, saying it was a one-sided document. He referred likewise to the letter of president Davis in the last issue of the *American Farmer*, characterizing it as unfair and disingenuous. The speaker had been one of the earliest friends of the college; he had nurtured it in its infancy, and now when it needed a friend to sustain it he would not refuse to extend to it what assistance was in his power. He denied the correctness of the statement that had been read, and, not having expected it, was unprepared with details and figures to refute the charges that had been made. In this matter Mr. Earle disclaimed having any personal feelings or aims, except such as he believed would advance the interests of the college. He had been waited upon on several occasions and invited to accept the presidency, but invariably declined, preferring to aid it in other ways.

Mr. Davis said he was physically unable to reply at length to the remarks of Mr. Earle, being a severe sufferer from a neuralgic attack, and even were such not the case he could not hope to interest the meeting, as it had just been entertained by the eloquent remarks of the speaker who had just taken his seat. He (Mr. Davis) made no pretensions to ability, but claimed that he possessed hard common sense, and in this matter he had dealt only with common sense facts. The statement he believed to be accurate in every particular, and no member of the Board regretted the necessity of making such a statement more than he did. He had no personal feeling in the matter, and only entertained toward Genl. Jones the kindest feelings. He had met him upon his assuming the presidency and directed the removal of certain persons from the college building, to relieve Genl. Jones of the disagreeable duty of doing it himself. During his seven years' presidency of the board he (Mr. Davis) had done what he could to promote the interests of the college. He had found its treasury empty, and had secured money required for its support by endorsing its notes and becoming personally responsible for their payment, which no other member of the Board had done. He repudiated any disingenuousness or disrespect in submitting it to the meeting, but believed it to be his duty to do so. The statement might not be a pleasant one for the Board to hear—as it was not pleasant—and yet the facts it contains are important ones, and facts are stubborn things. He (Mr. Davis) had hoped to avoid making such a statement, and to spare the feelings of the president as far as possible had a year ago written to his friend, Major Lee, stating that the management of the affairs of the college was not satisfactory, and that a change was necessary. To this no attention was paid, and the painful task therefore was imposed upon him of setting before the meeting a plain statement showing the condition of the college.

At this point, Prof. Worthington moved the election of trustees be gone into and the motion was carried.

Genl. Jones was not found and the invitation to appear at the meeting could not be delivered.

Mr. Davis explained that by the terms of the charter vacancies in the board must be made before they could proceed with an election. There were only two vacancies, that of Col. Lloyd and himself, but if the meeting desired to elect an entire new board it would be necessary to declare the positions of the present trustees vacant.

Mr. Calvert accordingly offered a resolution to to that effect, which was adopted.

Mr. Davis then offered the following, which was seconded by Mr. Sands:

Resolved, That the Maryland Agricultural College being a body corporate, and organized according to the terms of its charter exclusively by the votes of its own members, it is unwise and inexpedient that any others than its own stockholders should be elected as trustees of the college.

Mr. C. B. Calvert inquired whether this was intended to have the force of law and be operative always in the future.

Mr. McHenry said he approved the principle, but thought the resolution could have no binding effect.

Mr. Earle agreed in this, the provision sought to be established not being contained in the charter or the general corporation law of the State, and Mr. Davis then withdrew the motion.

Messrs. Worthington and Sands were appointed tellers and a ballot taken for seven trustees. The result was as follows:

Total number of votes cast.....5,778
Necessary to a choice.....2,890

The following gentlemen received the number of votes opposite their respective names, the first seven named constituting the new board:

E. L. F. Hardcastle, Talbot	5,778
J. Howard McHenry, Baltimore	5,578
Allen Dodge, District of Columbia	4,075
Ezra Whitman, Baltimore	4,075
James T. Earle, Queen Anne's	4,075
John F. Lee, Prince George's	3,875
Charles B. Calvert, Prince George's	3,775
Wm. B. Sands, Baltimore	1,903
Geo. H. Calvert, jr., Prince George's	1,703
Edward Wilkins, Kent	1,703
Washington Bowie, Montgomery	1,703
W. W. Corcoran, District of Columbia	1,703
A. Bowie Davis, Montgomery	200
Benjamin Hallowell, Montgomery	200

Immediately upon the announcement of the result, upon motion of Mr. C. B. Calvert, the meeting adjourned.

President Davis' Report.

The present unfortunate condition of the college and the circumstances that have produced it, demand from the President of the Board a specific report. In this report three points require brief notice:

First. The condition of the college in 1873.

Second. Its condition now.

Third. The causes of the lamentable deterioration which will thus be made manifest.

Former Condition of the College.

First. The condition of the college in 1873. In the Spring of that year the Board of Trustees resolved to reorganize the college so as to widen its field of usefulness and make its course of study conform in some degree to the requirements of the law. With this view the course of study was remodeled and a professorship of Agriculture instituted. These reforms took effect in September, 1873, at which time the college opened with an attendance of eighty students, many of whom were in the higher classes. The floating debt was $4,400. This debt had been increased on behalf of some expensive and necessary repairs, instituting and equipping a new professorship of Natural History and by raising the salaries of the other professors. It was suitably provided for by corresponding reductions in salaries for the ensuing year, and by leaving vacant the professorships of Mathematics and Natural History, the duties being assigned to others, a saving in all of $2,850, which, with assets in hand at that time, wheat and other crops, $972, in all a prospective saving of $3,800, or very nearly the amount of the debt. Thus the outlook was favorable, everything in good repair, an efficient corps of professors, a goodly number of students and a small debt amply provided for. The college was also in good repute throughout the State, owing to its successful management during the four years previous. No one can,

therefore, doubt that a decent economy and efficiency on the part of the officer entrusted with the management would have prevented that condition of affairs which I am compelled reluctantly to report. If the college could not then be said to be prosperous, still it was at a tide in its affairs when a little faithful, well-directed effort could easily have made it so. The time seemed at length to have arrived when the dreams of its founders might be realized, when successful instruction in agriculture might become a fact, and the college take a high position in the system of public education which this State has expended so much money to effect. How their hopes have been defeated by mismanagement and neglect is no longer to be concealed.

The Present.

Second. The present condition of the college. The number of students is now about thirty-five, the majority of whom are in the lowest and preparatory classes, and many of whom are pursuing especial courses in studies and for purposes never contemplated in the plan of the institution. The extensive advertisement of the attempted nautical school, a visionary scheme, inaugurated by the President without due authority from the Board, or consultation with the Faculty, as the by-laws require, has kept many students away by convincing them that the scope of the college had been changed, and has subjected the college itself to public ridicule. One-third the students are those preparing to enter the Naval Academy, and most of them, therefore, came from other States. This has a two-fold effect. It degrades the college into a mere preparatory school, and the money given by the State to educate our own young men is spent in educating those from other sections. The state of discipline is notoriously bad, to the great injury of the younger students, and in violation of the trust reposed in the college authorities by their parents.

The debt of the college on April 1st was $10,000, which is so far from being provided for that to reduce it even to this figure, it has been necessary to anticipate a large part of the income of the coming six months. The buildings are in need of repairs, the household furniture and equipments demand expensive replenishment. In the Scientific Department there is such a lack of the proper means for instruction, that as was reported to the Board at its last meeting by the professor now in charge of the Department of Agriculture and Chemistry, there are neither the instruments nor materials for illustrating even the elements of these sciences, much less for trying elaborate experiments in agriculture. The institution cannot be put in proper condition for the next scholastic year, without an expenditure for repairs, &c., which will raise the debt to more than $15,000. What is still worse, the reputation of the college is at its lowest ebb, and no influx of students can be looked for. Its creditors are importunate. Unless a thorough reform can be effected in its management it must cease to exist.

Decline of the College.

Third. The cause of this decline. The increase of the debt is due not to any misfortune, but to the mismanagement of the finances by the President. His first act upon taking charge was, under an authority to use $500, to expend nearly $3,000 in fitting up and furnishing his own residence. The farm accounts show a deficit of over $3,000, without any accompanying improvement, but rather deterioration. A comparison of the household accounts and expenses with those of the previous years show that in every department there has been waste and extravagance. In the fall of 1874 the trustees, seeing that while the debt was increasing the number of students was decreasing, and that the college was getting an ill name with the public, entered into a special investigation, with results just given as to finances. A letter was addressed to the members of the Faculty requesting answers to certain questions. The facts thus obtained show conclusively that from the beginning the president had failed to support the true interests of the college, or place himself in harmony and sympathy with its necessary working machinery; that he neglected his proper duties as President; the instruction of students was not properly attended to; boys were allowed to remain several days after coming without being assigned to duty, and some of the most ignorant were permitted to go through the session without attending the most important schools of instruction and with only an average of a fraction over one recitation per day; that discipline was not properly enforced and grew worse from day to day; that on these various accounts much dissatisfaction was evident among the better class of students and their parents, which resulted in a reduction of the number by more than one-half by the end of the year. From a consideration of all the facts produced, it must be affirmed that while some minor circumstances have contributed to injure the college, still the present administration has been from the beginning a failure in finance, education and agriculture, and is responsible for the all but consummated ruin of the college. In conclusion it must be again affirmed that unless the errors of the present administration are corrected and guarded against, the college must cease to exist, and it can no longer honestly receive the State appropriations, since they are applied to purposes foreign to the grant and in neglect of those specified by charter, and since only one-fourth the number of students provided for are being educated in return for the State appropriation.

Having already announced my determination to retire from the board, which determination would, before this, have gone into effect but for the fact that I had assumed a financial obligation for the college, which obligation, before my retirement, I felt morally bound to close, I have now only to report (that object having been accomplished) that I now desire, without any abatement of interest in the college, to turn it over to younger, more active and abler hands.

THE NEW HARDY PLANTS, *Aquilegia chrysantha* and *A. cærulea*, advertised by Mr. Brackenridge, are very beautiful and should find a place in every garden at the very low price at which he offers them.

WE ARE REQUESTED to call attention to the account somewhat historical and personal, given further on, of Mr. Andrew Coe, who was one of the pioneers in the manipulated fertilizer trade.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

BY SAML. SANDS & SON,

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(*sign of the Golden Plow.*)

SAML. SANDS, }
WM. B. SANDS, } Editors and Proprietors.

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One Square, 10 lines.....	$ 1.50	$ 4.00	$ 7.00	$ 12.00
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Cover Pages subject to special contract.
Transient Advertisements payable in advance—all others quarterly.
Advertisements should reach us by the 20th of the month, to secure insertion in the succeeding issue.

MAY 1, 1875.

Damaging Frosts.

From the 16th to the 20th ultimo. we had very severe cold weather, which on every side seems to have done great injury to the growing crops, not only of fruit and early vegetables, but to tobacco plants, wheat and clover.

It is difficult to determine the extent of damage done, and we can only hope that the result will prove less disastrous than the accounts received would now lead us to fear. On the Eastern shore of this State and in Delaware, the peach crop, which was at first reported destroyed, is now said to be generally uninjured. With this fruit, however, the evil done does not always show itself immediately. The cold "spell" seemed to have been very general, extending in every direction.

Enterprise Farmers' Club of Montgomery County, Md.

We had the pleasure of attending on the 22d ultimo the meeting of this very successful club, at the residence of Mr. Thomas J. Lea. The attendance was large and the proceedings interesting, several questions of practical and present moment being under discussion. The late day in the month of the meeting, and the pressure upon our columns, forbids our giving a detailed report. A part of the programme was the inspection of the buildings and fields of the host. We noticed some handsome Cotswolds, Berkshires from the Agricultural College at Cirencester, England, a Short-horn bull, &c.,—which spoke well for the enterprise of Mr. Lea.

The Election of Trustees for the Agricultural College.

Elsewhere we give a report of the meeting of the stockholders of this institution. An explanation of some circumstances connected with it will not be without interest to the general public.

The books of the corporation are in a confused condition, and it is now impossible to determine from them, in numerous cases, who are the owners of stock or who have paid up their subscriptions, and it would appear from them that, of the original subscribers, numbering about 375 persons, nearly 200 have never paid.

At the recent election there were 5,778 votes cast. It is probable there were from 600 to 1,000 others thrown out by a resolution rejecting all doubtful or disputed proxies.

The whole issue was upon the reinstatement of the majority of the old board, who sought a re-election as a vindication of their course with relation to the College. Messrs. Davis and Lloyd had declined to be candidates or to serve longer. Messrs. McHenry and Hardcastle were acceptable to all parties.

The majority of the old board, Messrs. Earle, Lee, Whitman and Dodge, with Mr. Chas. B. Calvert, were opposed by Messrs. Edw. Wilkins, Geo. H. Calvert, Jr., Washington Bowie, W. W. Corcoran and Wm. B. Sands. Neither side had in its hands votes enough to elect,—the decision being made, as has more than once before been the case, if our impression is correct, by the proxy (1,500 votes) of the late Dr. Mercer, of Louisiana, a gentleman, who, in its early days, felt a great interest in this institution. This stock was voted to continue the old majority, who thereby secured their re-election.

This contest, however, was not decided on the merits of the case. With the stockholders there is a lamentable indifference on the subject. It is largely owned by persons who are only remotely interested in agriculture, and these and all other holders well know it has scarce the slightest pecuniary value, present or prospective. As a consequence, the most active canvasser is likely to secure the most votes.

In the late election, there were very few *new* proxies, the great bulk of those voted varying in age from *one to seven years!* The present issue as to the recent or future management of the College cannot be said to have been a factor of any consequence whatever in the contest.

Our usual department of Fish Culture is unfilled this month, owing to the indisposition and absence of our experienced correspondent, Mr. Kent.

The Maryland Agricultural College.

The re-election of the majority of the old managers of this institution is claimed as a justification of their past action, and it is therefore to be assumed determines its future conduct, so far as they are concerned.

The restoration of this institution to a sound financial condition and to a decent reputation for discipline and scholarship, would have been an arduous and extended task for a new direction, determined to begin entirely afresh, unswayed by any personal or local claims, and resolved to make it a school of agriculture alone, with such additions as were fitted for the education of our future farmers. For the present board to accomplish it, impeded by well-known differences of views, entangled by extraneous alliances, and with the weight of responsibility attaching for the past management is, in our belief, simply impossible.

No institution of learning could survive the mortifying report submitted by President Davis —submitted by him, we are sure, with sadness and regret, but in accordance with a duty which was inexorable, and read, as will be noticed, before the election took place. This report has been characterized to us by a gentleman whom we regard as eminent authority from his knowledge of all the case, as "a careful, conscientious and gentlemanly statement of very disagreeable facts." Those who know Mr. Davis will not believe that he could make one of any other character.

Admitting that the next General Assembly in its wisdom, sees proper to continue the appropriations, with what material can the college work? What parent will send his son to a school in the condition portrayed by that report? What farmer but now knows that this *agricultural college* is no college at all, and that there is nothing agricultural about it?

A sweeping change involving not only the system but the entire *personnel*, and which, abandoning the pretentious university plan would have substituted an elementary agricultural school, with scope for enlargement only as demand for it arose, *might* have given some room for hope of a renewal of confidence, which we certainly think is not consistent with the views entertained by the majority, and against which Messrs. McHenry and Davis argued in vain. That anything short of this would suffice to change the opposition and distrust of our farmers cannot be believed by any one who knows *their* temper on this subject.

With the immediate government of the college we have nothing to do. The board of trustees can be left to determine the question of responsibility for its present sad decadence, and they cannot shut their eyes to any light President Davis' report throws on it. We argue and protest against the pernicious system which could make possible the state of affairs he exhibits as now presented by the school.

After the last number of the *Farmer* was issued, but a day or two before the stockholders' meeting, we had an opportunity of looking over the reports made by the professors as to the unhappy condition of the college. These all unite in showing a deterioration in system, discipline and scholarship which is appalling. These reports, of which the representatives of the State are, doubtless, cognizant, we presume will see the light when the Board of Education makes its report to the Legislature, if they are not produced before.

Certain parties in letters to the daily press deprecate public discussion of the affairs of the college, as though it were a private institution, endeavoring to put out of sight the very important fact that the State is an equal joint owner with the private stockholders; that her money investment is probably greater than theirs; that she has given annually a large appropriation to it, on the plea of serving the farming interest, and that as the agent of the United States she gives it a still larger amount from the fund dedicated to agricultural education. A majority of the trustees may exclude the State's representatives from a vote in their board, but it is impossible to keep from the public which *gives the money* a knowledge of how that money is applied or misapplied.

President Davis' paper is not agreeable reading, but it is necessary to refer to it. It is needless to say that general reputation is not more favorable to the college, and that the farmers of the State will consider their intelligence insulted by any tub thrown to the whale in the shape of further appropriations, if on the theory that it is done in the interest of their class.

A candid statement of the present condition of the college seems to be about as follows:

The State appropriation is $6,000 a year. The annual income from the United States fund is about $7,000. There rests upon the corporation a debt of about $10,000, and it is reduced to that figure only by anticipating the next half year's receipts.

There are about thirty-five pupils in attendance. Of these, fifteen are being prepared for the Naval or Military Academies. Of the re-

mainder, nearly all are in the preparatory department, which is a grammar school of very low grade. Each boy pays $200 a year.

Agriculture is not taught at all, as we believe, nor any of the arts and sciences relating to it.

The majority of the new, are the same gentlemen who composed the majority of the old, board of trustees, and who objected to the participation in its proceedings of the representatives of the State; who are pledged to making this college "a school of high scientific instruction;" who sought to discharge from their places not only the professor of languages (a gentleman of acknowledged rare ability as a teacher) but the professors of agriculture and agricultural chemistry, and, making no provision for their replacement, to thereby virtually abolish their chairs. These same gentlemen also sustained the farcical scheme of teaching "nautical science," and making of the college a training school for the United States Naval and Military Academies.

In this view of the case, we submit to the tax-paying farmers of Maryland, whether it is not time that the handsome annual donation from the State should determine; the State itself retire from its droll partnership in agricultural education; and a new direction be given the income from the invested proceeds of the scrip granted by the United States for the furtherance of education in agriculture and the mechanic arts.

As a contribution towards the illumination of the subject, we give extracts from the laws of Maryland, showing the provisions of the charter and the acceptance of the terms of the gift from the United States, and also one from the law of the United States donating the land scrip:

"It hath been represented to the Legislature that certain wise and virtuous citizens are desirous of instituting and establishing, in some convenient locality within this State, an Agricultural College and Model Farm, in which the youthful student may *especially* be instructed in those arts and sciences indispensable to successful agricultural pursuits. * * * * It is the province and duty of the Legislature to encourage and aid the philanthropic and patriotic citizens in their efforts to disseminate useful knowledge by establishing an Agricultural College and Model Farm, which shall, in addition to the usual course of scholastic learning, *particularly* indoctrinate the youth of Maryland, theoretically and practically, in those arts and sciences, which, with good manners and morals, shall enable them to *subdue the earth* and elevate the State to the lofty position, its advantages in soil, climate, &c., and the moral and mental capacities of its citizens entitles it to attain."—*Extract from the preamble to the Act of Incorporation of* 1856.

"It shall be the duty of the said board of trustees to order and direct to be made and instituted on said Model Farm, annually, a series of experiments upon the cultivation of cereal and other plants adapted to the latitude and climate of the State of Maryland, and cause to be carefully noticed upon the records of said institution, the character of said experiments, the kind of soil upon which they were undertaken, the system of cultivation adopted, the state of the atmosphere, and all other particulars which may be necessary to a fair and complete understanding of the result of said experiments, and they shall also require the *instructor of chemistry*, as far as may be consistent with his other duties in said institution, to carefully analyze all specimens of soil that may be submitted to him by any citizen of this State, free of charge, and specially furnish the applicant with an accurate statement of the result."—*Section* 6, *Act of* 1856.

"After the Comptroller shall have sold the said scrip and invested the proceeds thereof as provided by the Act of the General Assembly, passed at January session, eighteen hundred and sixty-four, chapter ninety, the annual interest or income of said investment shall be regularly paid by him without diminution to the Maryland Agricultural College, and the *leading* object of said College *shall be*, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education *of the industrial classes* in the several pursuits and professions of life, and the money so to be received by the said College shall be applied to the objects enumerated in the said Act of Congress, and to no other purposes whatever, and the said College shall, in all respects, comply with the several requirements of the said Act, as to making and recording experiments, and reporting the same as therein prescribed; *provided*, that nothing herein contained shall be construed to prohibit or preclude the General Assembly, at any time hereafter, from making any other disposition of said funds, not inconsistent with the Act of Congress, making said donation."—*Sect.* 1*st*, *Act of* 1865.

The Act of Congress relating to this institution is entitled "An Act donating lands to the several States and Territories which may provide colleges *for the benefit of agriculture* and the mechanic arts," and its fourth section requires that the interest of all moneys derived from the sale of the lands donated "shall be invariably appropriated by each State which may take and claim the benefit of this Act, to the endowment, support and maintenance of at least one college where the *leading* object shall be," &c., &c., the same phraseology being then used as adopted in the extract given just above from the State law appropriating the interest from the gift to Maryland.

Having shown what the law requires to be taught, we give the "naval school" circular of the college, showing what our Maryland agricultural institution proposed to teach.

It is proper to say that the paragraph we print in italics was stricken out, as is understood, as soon as the subject was brought to the notice of the Board.

NAUTICAL SCHOOL
AT THE
MARYLAND AGRICULTURAL COLLEGE.

To supply a want which it is believed is much felt, there has been added to the full collegiate and agricultural course of the Maryland Agricultural College a special course of instruction for youths in NAVIGATION, SEAMANSHIP, MARINE ENGINERY, AND ALL MATTERS PERTAINING TO THE PROPER CONSTRUCTION, EQUIPMENT AND SAILING OF VESSELS, or any particular branch thereof.

The new chair is filled by Captain William H. Parker, a graduate of and for several years instructor in the United States Naval Academy. In addition to long and active service in the navy, Captain Parker was for seven years in the service of the Pacific Mail Steamship Company, commanding first-class steamers, running from San Francisco to Japan, China and Panama.

This addition to the course of instruction renders the Maryland Agricultural College a highly desirable institution of learning, not only for those who desire a collegiate course, but especially for those who propose to adopt the pursuit of Agriculture, or the Mercantile Marine.

Captains and mates in the merchant service wishing to improve themselves in the theory of navigation, seamanship, and the branches pertaining thereto, will be received at the college for such length of time as may suit them, and are cordially invited to apply for such further information as they may wish.

Special attention will be given to preparing candidates for admission to the United States Military and Naval Academies,—the president of the college being a graduate of West Point, and Capt. Parker of the Naval Academy, and both for several years instructors in the institutions of which they are, respectively, graduates.

The college is pleasantly and most healthfully located on the Washington Branch of the B. & O. R. R., nine miles from Washington, twenty-eight from Baltimore and thirty-two from Annapolis. For further information apply to the President,

GEN. SAM'L JONES,
College Station P. O., Prince George's County, Md.

With this remarkable production before them, we leave the subject for the present with the farmers of Maryland.

[After the above was in the hands of the printers, we received the letter of General Jones upon the college, given elsewhere in this issue.]

Received.

From the Hon. C. L. Flint, his REPORT FOR 1874-'75 OF THE AGRICULTURE OF MASSACHUSETTS, a volume of very great value, which we have not space to refer to at length, but from which we expect to make some extracts for the *Farmer*. One of the agricultural papers of Massachusetts in referring to this report says it is unsurpassed in value by any contribution to the agricultural literature of the commonwealth, and that the demand for it by its farmers is unprecedented.

Messrs. Bush & Son & Meissner, Bushberg, Mo., send us their DESCRIPTIVE CATALOGUE AND GRAPE MANUAL. This is a good deal more than a mere catalogue, and gives much information in a moderate space. The writers have a large experience of their own, and have not neglected the works of other authors; and make the most satisfactory book we know of on grapes, whether on their classification, planting, training and pruning, diseases and insects, descriptions of varieties, &c. Its cost is only 25 cents by mail.

From Messrs. Scribner & Co., we have SCRIBNER'S MONTHLY and ST. NICHOLAS for April and May. Both are inimitable, and seem to offer each month some new feature of striking novelty and interest. St. Nicholas is simply indispensable to every family, in town or country, where there are children of any age. The April monthly contains a beautifully illustrated paper, entitled "The Liverpool of America," giving an account of the great commercial advance made by Baltimore, with descriptions of well-known institutions and localities. Each number abounds with stories, poetry, sketches and the usual editorial variety.

We have received the Feb. and March Nos. of the "*Maryland Ploughman and Chesapeake Granger*," a literary and agricultural journal, published at Annapolis, Md., by Messrs. E. S. Riley & Co. It is printed on beautiful paper, and its mechanical execution reflects credit upon its publishers. The subscription price is $1.00 a year.

We have also received the first numbers of the "*Monthly Journal of the Maryland State Agricultural Society*, edited by President and Secretary," and intended for free circulation among the members. The contents embrace a report of the monthly meetings, similar but rather more full than that given in our pages.

MANUAL OF THE CULTIVATION OF THE GRASSES AND FORAGE PLANTS IN THE SOUTH—by C. W. Howard, Kingston, Ga.—Price 30 cents.

We regard as one of the most hopeful signs of the progress that agriculture is making in the Southern States the demand which has called forth this second edition of Mr. Howard's Manual. The agricultural condition of no country or section can be truly described as prosperous or promising, where grasses and forage crops are neglected.

We suppose no man in the South is better qualified to write upon this subject than the author of this pamphlet, and we regard the work he has bestowed upon it as a philanthropic contribution towards the improvement of the material condition of a whole people.

Many of the old time-notions as to the unfitness of climate and soil in the cotton-growing States for the production of clover and grass, are fast disappearing, and the aid which the author has given in that direction by his writings has been important and constant.

The Manual carefully goes over almost the entire list of cultivated forage plants, discriminating between those adapted for profitable growing and such as are unsuited for the wants of the South; and gives, besides, a great amount of valuable information of the management of these crops, which, so far as our knowledge goes, it would be almost impossible for the Southern farmer to find elsewhere.

We give in another place an extract from the pamphlet, and may give others; but we recommend every one interested in the subject—and no farmer but should be—to procure a copy and read it carefully. It can be had of the author at the address given.

The Vegetable Garden.

May.—Stir the soil and kill the weeds. These are almost synonymous, for as you loosen the soil you destroy the weed seeds just starting into activity. It is said, also, that there is no better mulch than that afforded by the layer of finely pulverized soil, and the porous surface is then also in a fit condition to absorb air and moisture. Hardy vegetables already up may have succession crops sown.

Bush Beans ought to be in; also Limas. The latter may be advantageously started in one corner of the hot-bed. All root crops should be worked from the very start: carrots, indeed, before they can be seen. Seed of cabbage for late crops may now be sown, and the early kinds constantly worked. Plantings of corn should be made every ten days. Cucumbers, melons and squash may now be planted out of doors, as also egg plants, which need a very warm soil and plenty of rich manure. Onions should be worked thoroughly. Peas may still be planted, putting them in deep. Tomatoes may now be set out, and in gardens some kind of a trellis or support ought to be provided for them. Turnips and Radishes are liable to be attacked by the fly, when they should receive a dusting of ashes, plaster or air-slacked lime.

The Colorado Beetle.

Mr. Suel Foster writes to the *Country Gentleman* from Iowa, that it was their practice there, formerly, to mix Paris green for this insect, with twenty to forty times its bulk of flour, plaster or lime, but that experience has taught them that mixing with water is preferable in three important respects: First, it is more effectual; second, it is more easily done; third, it is safer. He says:

"I have tried it both ways, and this is my experience. I do not raise as many potatoes as some of my neighbors. Mr. B. told me, a few days ago, that last season he set his hired man to putting on Paris green in water, and he himself mixed it with ashes. This hired man took the horse and wagon, with a barrel of water, which he had to fill three times for three acres, and with the garden watering pot, with a fine sprinkler, he put in eight quarts of water and a small tablespoonful of green, keeping it shaken up as he walked along, sprinkled three acres in less than one day. This killed them effectually; but they often, and usually, come a second time, and a second dose is necessary. It takes about one pound of Paris green to an acre each time; the price here is sixty cents a pound. These potato bugs at this rate will cost us here $2 to $2.50 per acre to raise potatoes. Mr. B., with the ashes and green, worked till nearly noon, and went over six rows—about one-fourth of an acre; then the sun came out, and he was willing to quit. It was not as effectual, and there is more danger of inhaling the dust. On using my sprinkler, I found it needed a V lip soldered on the under side of the nose, to prevent the drip from wasting."

Letter from General Jones.

A Reply to Messrs. Davis and McHenry.

To the Editors of the American Farmer—

GENTLEMEN:—In the April number of your journal there are two letters on the Maryland Agricultural College, to which, by your leave, and with my thanks to you for the courtesy, I propose to reply in the May number of the same journal. One of the letters is by the ex-president of the board of trustees of the college,—the other by another member of the same board.

The latter gentleman has been for some years an active member of the board of trustees, who has given much thought to the college, and, I am sure, earnestly desires its prosperity. It is, therefore, with regret that I differ with him in opinion on the subject.

He recommends, if I understand him correctly, that this college be converted into "*a working school of agriculture, combined with a school for instruction in the necessary branches of elementary education,*" and that its efforts be directed "*to the training of children* in the practical knowledge of agriculture and of arts and sciences immediately connected with it." If *children* can be induced to attend such a school on no other terms, he suggests that they be received not only free of charge for tuition and use of text books, as they are now, but without charge of any kind. In other words, that they be furnished with tuition, board and books gratuitously. Such a school might be deserving and useful; but did the founders of this college, of whom the gentleman I refer to is one, its charter and the act of Congress of July 2d, 1862, generally known as the Educational Land Grant Act, under which this college receives more than half its endowment, contemplate the establishment of such an institution? If they did, they certainly commenced with a misnomer, for such an institution could in no just sense of the term be called a COLLEGE.

The founders of this college designed to inaugurate an institution of learning, in which youths, whilst receiving "liberal education" to prepare them to perform well their parts as citizens of the State, in whatever position of respon-

sibility they might in after life be placed, should at the same time receive thorough instruction in agriculture, and the arts and sciences relating to it, and to mechanic arts. The stockholders subscribed their money to establish such a college. The same purpose is expressed in the preamble to the charter of the college, and the Act of Congress of July 2d, 1862. This latter act provides expressly that the money derived from the sale of the land granted, "shall be inviolably appropriated by each State which may take and claim the benefits of this act, to the endowment of at least one *college*, where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions." This language clearly implies the endowment of colleges of a high grade, capable of giving "liberal education;" the leading object being to teach modern applied science for the benefit of all industrial pursuits. Surely a simple "*working school of agriculture, combined with a school for instruction in the necessary branches of elementary education*," would fall very far short of such a college as is contemplated by the foregoing laws under which this institution exists,—so far, that to convert it into such a school would seem to be a diversion of its property and endowments from their legitimate purposes.

There are many other objections to the change recommended, but to point them out, and give my views fully on the subject, would extend this communication to greater length than would be admissible in a single number of your journal. I will, therefore, only add in that connection, that to adopt the plan recommended by the writer I am referring to, would, in my opinion, not only fail to carry out the design of the founders of the college and the laws by which it exists, but would insure its speedy ruin.

Instead, therefore, of so radically lowering the standard of the college, every effort should be to improve it, elevate its standard of scholarship, extend its sphere of usefulness, and make it what its founders, its charter and the laws under which it receives its endowment designed it to be—a college where any parent or guardian might feel assured that a son or ward would receive not only thorough instruction in all of those "branches of learning relating to agriculture and the mechanic arts," with a "*model farm*" in the highest state of cultivation constantly before his eyes, teaching by example, but might at the same time, if so disposed, receive a "liberal education," to fit him to perform in after life all the duties that may devolve on a citizen of a free State.

The ex-president of the board of trustees says in his letter, that this college was "founded especially for sons of the farmers and mechanics of the State." I had supposed that it was founded for and open to all who chose to profit by it: to the sons of lawyers, doctors, merchants and others, who subscribed much the larger part of the money for its foundation. But suppose it was founded "*especially*" or even exclusively for the sons of farmers and mechanics, are they to be cut off from the "liberal education" which the laws by which this college exists designed to provide for them? Are they not fired by the same ambition that animates other youths? Would it be just? Would it not rather be cruel to deprive them of the full benefits of the law, and provide for them such meagre mental training as would place them at so great disadvantage in the battle of life, with other and more fortunate youths? Intelligent farmers and mechanics would not send their sons to such a school. If they can spare their labor at home and pay their board at college, they would prefer to send them to some other institution—of which there are many in this country—where they could be better educated, and started fairly, well trained, mentally and physically, to run the race before them. I can discover no good reason why the sons of farmers and mechanics should, whilst receiving their educations, be separated from other youths of their age, but many why they should not be so separated.

In the latter part of the last century, three youths, the sons of farmers,—one in New Hampshire, one in Virginia, and one in South Carolina,—were receiving their mental training in schools and colleges open to all; and a few years later they had elevated the standard of statesmanship in this country to a point it has not since maintained, and, as CLAY, WEBSTER and CALHOUN, were leaders of Senates and Cabinets. Let us, then, whilst providing special instruction for the sons of farmers and mechanics, give them in addition the opportunity of emulating the example of those great men.

That may be done at the Maryland Agricultural College. In many respects it is most admirably located. It is in a State possessing natural advantages not excelled by any other. Its location is healthful and easy of access from all parts of the country. It is in close proximity to Baltimore and Washington, and in full view of the thousands of travellers over the Washington branch of the Baltimore and Ohio Railroad. It would seem that a natural and laudable State pride would prompt those who have it in charge to make both the college and farm models of excellence, alike creditable and useful to the State.

That was the task I proposed to myself when I accepted the presidency of the college. And here I may be permitted to say, that though the circumstances under which I became connected with the college may be of no interest to the public, I do not choose that they shall be misunderstood. Every trustee knows that I was called here through no agency of mine. So far as I know and believe, my name had never been mentioned in connection with the college until the trustees were actually balloting for a president, when, in a full board, I was nominated and unanimously elected. In justice to the gentleman who nominated me, I may say that he knew he was not nominating an untried man. I had been educated under the strictest discipline in one of the best institutions in this country, and for several years had aided in administering to others the same instruction and discipline in which I had been trained. I had been selected to aid in organizing and governing a State college in Georgia, and at the time of my election

to my present position I was filling a chair in a prosperous State university, which the regents voluntarily left vacant for many months, that I might return to it if this position should prove unsatisfactory. I had, besides, the highest testimonials from members of the faculty of the United States Military Academy, and other eminent gentlemen who knew me well; among whom I may mention the late Chief Justice Taney, and General Custis Lee and his great father, Robert E. Lee.

Before accepting the presidency of this college I wrote to the trustees that if they were satisfied to continue the college as it was then organized and governed, I would not connect myself with it, but that if they proposed to improve and elevate it, and make it what its founders designed it to be, I would accept the office to which they had called me. They accepted my services under that declaration.

I have been at its head little more than eighteen months. If it is asked why I have not made of it what I proposed, I reply, mainly because I have not been provided with the requisite means, and that my efforts were opposed and so far thwarted by the then president of the board.

To detail the various obstacles that I have encountered, would be as tedious and distasteful for me to write, as for others to read. One of my efforts has been so strangely and unaccountably misconstrued by the ex-president of the board of trustees, that in justice to the other trustees, the college and myself, I must ask you to allow me to notice what he has said at some length. I refer now to the effort made to add to the revenue of the college, extend its sphere of usefulness, and render it generally more attractive and prosperous, by making certain additions to the course of instruction.

He says that the "industrial and agricultural interests" of the State as affected by this college, have been "subordinated to the military and naval organizations of the United States." If so it has been done without my knowledge, and I venture to say without the knowledge of any trustee, other than the ex-president of the board himself. In support of the broad statement, he refers to the recent action of the trustees inviting three professors, among them the professor of agriculture, to resign; and to a circular printed last October, announcing certain additions to the course of instruction, and that special attention would be given to preparing candidates for admission to the military and naval academies. An invitation to professors to resign, does not by any means indicate that instruction in their particular branches of learning is to be discontinued. If that had been the purpose, the readiest and most obvious course would have been to have abolished the chairs. Leaving the chairs, and inviting the occupants to vacate them; would seem to indicate the purpose to refill them, or provide in some other way for giving the instruction incident to them. But as the gentlemen referred to did not accept the invitation, no great harm has been done.

But the circular, in connection with the invitation to the three professors, the ex-president thinks clearly shows that the "industrial and agricultural interests" have been subordinated to the military and naval organizations. "*It is*," says the ex-president, "*an accepted rule of law* "*that a local special act takes precedence of a general* "*law,—so all subjects are made to give way when* "*the special comes in conflict.*" By which rather forced simile, we are given to understand that in his opinion, a circular issued by the president of the college takes precedence of the provisions of its charter and the laws passed for its government, just as I suppose according to the same "accepted rule of law" in his opinion an order issued by the superintendent of a railroad, or the president of an agricultural society, takes precedence of the general laws of the State with which they may happen to conflict. Did he entertain that opinion when in the summer of 1873, as ex-officio president of the college, he caused the annual college catalogue to be issued, announcing, among other things, that "*special* "*instruction, for all who may desire it, will be given* "*at professor's rates, in phonography, telegraph and* "*music?*"

But I am speaking now to a question of fact rather than of law. This imaginary new instance of the "subordination of the civil to the military," has, the ex-president says, been accomplished by the recent action of the trustees and the president of the college, and the industrial and agricultural interests thereby brought into "great peril," and he apparently washes his hands of all responsibility for the mischief. Let us see on what grounds. The following are the facts:

At the meeting of the trustees in September last, the chair of mathematics was filled. The accomplished gentleman selected was a distinguished graduate of the Naval Academy, for several years an instructor in that institution, and had served long in the navy and in the merchant service. It was suggested to the board by the president of the college, that the newly-elected professor was admirably qualified to instruct (in addition to mathematics) in navigation, seamanship, and all relating to nautical science, and to prepare candidates for admission to the Naval Academy. That the college would be made more attractive, and its sphere of usefulness extended, by adding to the curriculum a course of nautical instruction for youths who proposed to go into the mercantile marine. It was also pointed out that the revenue of the college might be thereby materially increased. The proposition was favorably received; no objection was made to it, and, on motion of a member, the gentleman in question was elected to fill the chair of mathematics, "and to perform such other duties as, in the discretion of the president of the college, may be assigned to him." The record shows that the motion *was voted for by every member present, including the president of the board himself.*

Again, on the 22d January last, at a meeting of trustees, a resolution was offered, authorizing the president of the college to receive students, *non-residents of Maryland*, applying for special instruction, and to charge them $40 per month for board and tuition.

The president of the board was present, and the record shows that the resolution was adopted "*unanimously.*"

If, therefore, the "industrial and agricultural" interests have been subordinated to the "military and naval organizations" and thereby brought

into great peril, it is not seen how the ex-president of the board can escape his share of the responsibility.

But in truth no interests whatever have been imperiled by the action referred to, nor has any one connected with the college the remotest desire to subordinate the civil to the military. We have had quite enough of that of late in this country.

The circular which the ex-president finds now so objectionable, was proposed to make known and carry out what was understood to be the purpose of the trustees, and copies were sent to them first of all. No one intimated to me that they were in any way objectionable, and it was some weeks before I heard incidentally that, at a special meeting of the trustees, some members being present who were not at the previous meeting, the circulars were objected to. Very few had been issued, I ceased to send them out, and at the next meeting of the board early in December last, I reported to them that in deference to the opinions of those who objected, I had withheld them until further action of the trustees.

Under authority given by the 2.1 of the above mentioned resolutions, students desiring to prepare to enter the naval academy have been received. But they would have been received if no such resolution had ever been adopted. Under the regulations made for the government of the college before I was connected with it, I would have had no authority to refuse to receive them. There is no regulation prohibiting the reception of students who propose to go to any other institution, or into any pursuit. The resolution, in effect, does nothing more than to provide that such students, *non-residents of Maryland*, shall pay a moderate tuition fee; whereas, without that resolution, those students would have been received as all others are, free of charge for tuition.

This tuition fee required of special students *by the approving vote of the ex-president*, he now thinks most objectionable, even demoralizing. He asks, "who in the nature of things is likely to "receive the most benefit and assistance under "this arrangement, the student who pays forty "dollars per month or the student who pays only twenty dollars per month?"

The question might seem to imply a grave imputation on the integrity of the faculty which I am sure was not intended. I answer that the professors, having a proper appreciation of their duties, will make no distinction whatever, but give equal attention to all, and to all the attention they need, even if they were not actuated by a high sense of honor and duty. What possible motive have they for desiring otherwise. The tuition fees go into the college treasury; no part of them go to the professors, whose salaries are provided for by a different and specific fund. This plan was designed to benefit the college in various ways, especially to increase its revenue. The only effect it has on the professors concerned, is to impose upon them additional labor, not that these special students are taught any thing that is not taught to others, for their course of instruction, so far as it goes, is identical with that which under the late president's ex-officio control of the college, was prescribed for the freshman class. But it obliges the professor to go over and over again, with these new students as they arrive, the same part of the course already gone over by those who have preceded them. The additional labor was cheerfully assumed, not only without additional compensation, but under a reduction of salaries, simply to advance the interest of the college.

The only ground, then, for this charge that other interests have been subordinated to the military and naval organizations, is, that there are a few youths here preparing to enter the Naval Academy, for which they are charged very moderate fees. They are taught nothing that is not taught to others, but are *not* taught much that *is* taught to others, simply because they do not need and do not desire such instruction.—Their influence at the college is most salutary, because their appointments to the Naval Academy are dependent on their passing the preliminary examination. They have, therefore, a strong *immediate* inducement to study diligently, and to discourage in others idle lounging and visiting which would interrupt study.

Many more such students would, I am sure, have been here, and the revenue of the college thereby much increased, but for what I must regard as the ill-advised and prejudiced opposition of some in authority.

The proposition to add to the college curriculum a course of nautical instruction for those who desire it, has been misunderstood and therefore misrepresented. By a recent Act of Congress, the Secretary of the Treasury is authorized to furnish to the city of Baltimore a vessel of war thoroughly equipped, as a school or training ship. The city boards of trade and education had taken some steps to apply for the ship and organize the school. It was thought that this college and the training ship might aid each other, and both thus give additional aid to education. Youths intending to go into the merchant service as officers, receiving theoretical instruction at the college, might be received on the training ship for practical instruction during the summer. On the other hand, youths on the training ship who by conduct and capacity might merit it, would be received at the college for theoretical instruction and general mental culture. The plan, if adopted and wisely carried out, would, I believe, be of great benefit to the mercantile marine, especially of the city of Baltimore. I thought, and still think, that by attracting to the college and uniting with it other interests, it would soon be rendered all the more able to accomplish its leading object—namely, to teach those branches of learning relating to agriculture and the mechanic arts. That was my object. But it has been successfully opposed and abandoned, and the circulars announcing it are now lying in the office. It has been ridiculed by the ex-president of the board and others under his immediate influence, with more wit than wisdom, and the wit was infinitesimal.

"The thing," says the ex-president, referring to the nautical course, "to the common mind unfamiliar with the subject, seems supremely ridiculous." However it may appear to such a mind, to minds differently constituted it appears in a very different light. The distinguished president of a flourishing university, a man of the age, of

large experience in the organization and management of institutions of learning, wrote me that he regarded it as an "excellent idea," and he added: "I have always held that the congressional grant of 1862 was not for a pure agricultural school, but for a school of modern applied science, and I rejoice at every sign that this construction is elsewhere placed upon the terms of the law." The Commissioner of Education of the United States expressed his approval of it. The suggestion has been favorably received elsewhere. Special chairs of nautical science have been added to a college in New York and to the Massachusetts School of Technology. In California it is strongly urged that such a chair be added to the university of that State. A gentleman of San Francisco has offered to endow it if it can be added in no other way. Sustained by such a weight of authority, I am not concerned by the opinions of minor objectors.

"Better to err with Pope than shine with Pye."

Why should a youth who desires to enter the merchant service, and before doing so wishes to receive special theoretical instruction, and general mental culture to fit him to rise in his vocation, be turned away from this college and told that if he desires such knowledge he must leave the State, and seek it in New York or Massachusetts?

That is what we are doing here now. Applicants for such instruction are informed that, owing to some difficulties, the nautical course has not been introduced here, though the professor of mathematics (than whom no one is better qualified to give such instruction) has volunteered to give it in addition to his other duties, without additional compensation.

Very respectfully, SAM. JONES,
President Md. Agricultural College.

Maryland Agricultural College, April 23, 1875.

Maryland Societies and Granges.

Prince George's County.—At a meeting of the Patrons of Husbandry of Prince George's, last month, for the purpose of organizing a county grange, the following officers were elected:—Worthy master, James Nichols, of Laurel; overseer, P. A. Bowen, of Aquasco; lecturer, Rev. Dr. Harvey Stanley, of Collington; steward, Beale D. Mullikin, of Mitchellville; assistant steward, Thomas H. Perrie, of Horse Head; treasurer, Dr. John H. Skinner, of Nottingham; secretary, C. C. Magruder, Jr., of Marlborough; gatekeeper, Dr. Edward H. Wyvill, of Piscataway; chaplain, Rev. J. Benson Perrie, of Horse Head; Ceres, Mrs. C. C. Magruder, Jr., of Marlborough; Pomona, Mrs. John A. Coe, of T. B.; Flora, Mrs. Richard L. Ogle, of Collington; lady assistant steward, Mrs. C. B. Calvert, of Bladensburg.

Somerset County.—At a meeting of the Agricultural and Mechanical Society of this county, Wm. T. Fleming, Esq., in the chair, several committees were appointed for making arrangements for a fall fair.

Cecil County.—An agricultural society has been formed at Elkton, a constitution and by-laws adopted, a charter obtained, and the following officers elected:—A. R. Magraw, president; P. C. Strickland, vice president; F. S. Everist, secretary.

A grange of the Patrons of Husbandry was organized at Elkton, with L. T. Roberts, master, and S. B. Grant, secretary.

Charles County.—A grange has been formed, and the following officers elected:—President, Hugh Miller; vice-president, Wm. F. Dement; secretary, W. E. W. Rowe; treasurer, Joseph Price; gatekeeper, A. W. Neale; executive committee, Dr. Peter W. Hawkins, Dr. Thomas C. Price, and John H. Mitchell. A resolution was also adopted by the meeting, having for its object the holding of an agricultural fair in the county next fall, and although the grangers have inaugurated the movement, they wish it understood that it is not a grange affair, but that all persons having the good of the county at heart are invited to co-operate with them and thus aid in resuscitating the old agricultural society.

Kent County.—A meeting of the grangers o this county was recently held at Still Pond, for the purpose of forming a county council, and all the granges of the county were represented.

Frederick County.—At a meeting of the Frederick County Agricultural Society a few days since, the following were appointed to serve as the executive committee for the ensuing year: Benj. Snauffer, Wm. H. Falconer, Dr. Fairfax Schley, Gen. Edw. Shriver, Col. G. R. Dennis, Cornelius Staley, Col. C. K. Thomas, Calvin Page, L. S. Clingan and Eugene L. Derr. The next fair will be held on the 12th, 13th, 14th and 15th of October, 1875.

Talbot County.—The St. Michael's Agricultural Society has re-elected the following officers for the ensuing year: President, Dr. John Miller; Secretary, O. Hammond; Treasurer, Jas. Benson.

Queen Anne's County.—Past Master John R. Emory, Master W. T. P. Turpin, Messrs. James Tilghman, of John, W. H. Jacobs and E. B. Emory, of the Spanish Neck grange, Queen Anne's county, have been elected members of the county grange.

Anne Arundel County.—The county convention of grangers met here to-day.—H. M. Murray, Esq., in the chair, and George W. Duvall, acting secretary. Mr. H. M. Murray was appointed to arrange matters to form a regularly organized convention at an early day, and later a county grange was organized. Officers:—Master, H. M. Murray; overseer, P. M. Leakin; lecturer, J. S. Robinson; steward, Dr. Thomas Stewart; assistant steward, R. M. Davis; treasurer, George H. Steuart; chaplain, Rev. James Bonner; secretary, Dr. Thomas Welch; gatekeeper, E. A. Owens; Ceres, Mrs. J. S. Robinson; Pomona, Mrs. D. H. Richardson; Flora, Mrs. Annie Dorsey; lady assistant stewardess, Mrs. Thomas C. Boone.

Arlington Grange, No. 48, *P. of H.*—At the annual election, the following officers were chosen for 1875, viz: J. H. Hobbs, Master; E. R. Jones, Overseer; E. G. Selby, Steward; M. C. Davis, Assistant Steward; James Baxley, Lecturer; S. G. Hood, Chaplain; J. Eugene Buck, Secretary; Augustus Warfield, Treasurer; Wm. F. Hutchins, Gatekeeper; Miss C. G. Warfield, Ceres; Miss Addie Gartrell, Pomona; Miss Fannie F. Dorsey, Flora, and Mrs. J. E. Buck, Lady Assistant Steward.

My Neighbor and I.—No. 5.

BY JANE BOSWELL MOORE BRISTOR.

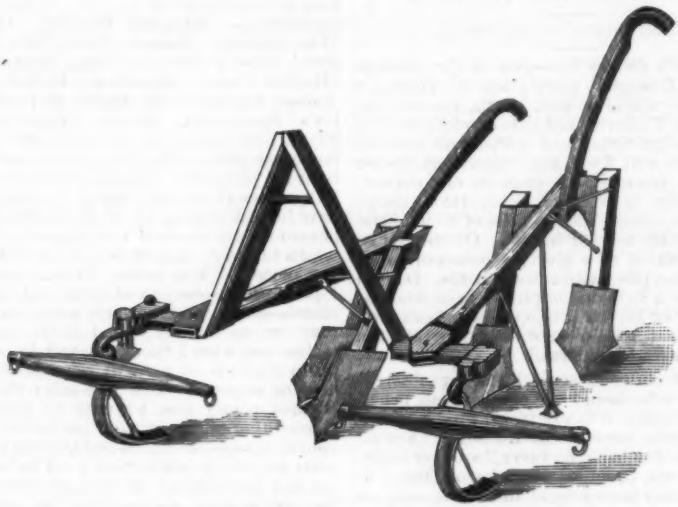
Mrs. Rand's *Galaxy* lay open at the passage from Mrs. Edwards' description of Danton's room—"The windows look south, toward the garden of the Tuilleries, and have carefully-tended boxes of mignonette and geraniums outside. Book shelves well filled, and engravings, are on the walls; a piano stands open in one corner; before the fire is wheeled a luxurious, sleep-inviting sofa, among the cushions of which little Deb has already nestled herself. On the centre table, in addition to a glorious bunch of roses, stands a basket piled with autumn fruits. Danton lives not like a Sybarite, but like a man who has discovered that life's best happiness is work, and that the grand helps toward the achievement of work are creature comforts."

"Excellent common sense," was my observation, taking note meanwhile of the broad pencil marks with which it is my friend's habit to emphasize favorite passages in reading. "Not always regarded as such, however," was her reply. "These shrewd, practical remarks of Mrs. Edwards, with her keen insight and subtle analysis of character, make her one of my favorite writers of fiction. I have read everything she has ever written that I can find." "How admirably Portia French was drawn in 'Susan Fielding.' Susan is the good character, Portia the fascinating one. There is, to be sure, a great deal in influence and training, but it seems to me Portia would have been Portia, with all her characteristics, under *any* circumstances. It seems so." "In a measure, but not wholly. Certain characteristics forming weakness or strength are inherited or are natural endowments. To restrain, modify, direct and educate these traits, I take it, is, or should be, the object and end of all education, and I have always believed that very much depends on properly understanding the disposition of a child. A gentle, timid nature may be driven to deceit by fear of harsh, stern treatment, which might drive a more resolute temperament to destruction. You must excuse me," added my friend, "if I moralize,—I feel like it to-day, Nellie, for I have been sowing seed; I never can do that and not think solemnly. Everything about it is so suggestive. It is a little over a week ago, since Henry brought me this nice book-rack, with its large shelves, just what I had been wishing for; he put it up, and I filled it with books, magazines and papers, while we laughed at the motley collection—my two invaluable companions, Miss Tyson's "Queen of the Kitchen," and Mrs. Howard's "Fifty Years in a Maryland Kitchen." I should be quite "lost" without them; then for stray moments, the "Shadow of the Rock," and "Chamber of Peace." Do you know some one borrowed old Mrs. Lane's copy of the former, keeping it over Sabbath? The dear old soul is a lovely picture of serene old age; no doubt you have often heard me speaking of her, but even she, it seems, could not cheerfully spend the day without it. As the little volume was not returned the next Saturday, her daughter Florence determined she should not pass another Sabbath disconsolate. She went out and bought another copy. I have felt more drawn to the mother and daughter ever since. Practical as I am, I should miss my few books of poetry." A goodly pile of magazines,—'Margaret Maitland,' 'Lacon, or Wise Sayings,' George Eliot's 'Wit and Wisdom,' Miss Avard's touching Christmas Carol; Halsey's Chart; Labberton's Historical Atlas; Abbot's Frederick the Second of Prussia; Motley's Barneveld; Wood's Magazine; Vick's Floral Catalogue; the *American Farmer*, and a few other piles,—filled the shelves on which the light fell pleasantly. As we stood there admiring it (it makes Henry very happy to think *his* hands have helped to make the house more attractive or beautiful,) we planned this temporary shelf on which this very shallow box of fine woods earth was placed. "You know, Nellie, how carefully I plant seeds,—we sowed some that day, after a night's soaking in lukewarm water, and lo! here they are up already! If I could only always realize that what I think, say and do, will spring up in the lives of my children just as surely, it may be as soon! You remember those stately Ricinus plants that towered so magnificently above other foliage in your garden of last year, your broad-leaved Cannas and tropical Caladiums, what important places they filled in the garden; yet how insignificant the seed, the root and bulb; the seed-sowing seems little, but the harvest far otherwise. Last year, under good care, in shallow fine earth, kept warm, sunny and moist, after soaking, nearly every seed came up, and most of them very quickly. A few years before, what bungling, blundering and failure. I am more determined than ever this year to secure more entirely the love, confidence and sympathy of my children. To do this, I must strive more earnestly to overcome some faults of my own temperament and training. Ah! if the weeds had been 'thinned out' in my childhood, I would not now have such hard pulling."

I was surprised at such a confession, but the saddened face and sigh told a suppressed story. It is one of my friend's many charms that there is so much that is new and suggestive about her. When we know each other better, I think we will talk more of our past lives, and through that knowledge draw together more closely. I remember one of her remarks at parting: "I often think of your advice; be content to sow few seeds at a time, and at intervals. Don't overcrowd. It is far more profitable in the end." When I said so, I thought only of flower seeds. But with my friend's expressive eyes on my face, I carried the analogy further. For we are all, in some way or other, *sowers of seed*, and shall all at last gather in a harvest.

THE ANNUAL EXHIBITION OF THE MARYLAND STATE AGRICULTURAL SOCIETY will this year be held earlier than has been usual, commencing on Tuesday, 14th September, and lasting four days. Recent arrangements made by the Western Maryland Railroad for a down-town depot will, we hope, be in operation in time for the Fair,—so that Pimlico, where it is held, will be more easy of access than ever heretofore.

The Virginia State Fair will be held at Richmond October 26–30.



THE GRANGER CULTIVATOR.

We give above an illustration of this new implement, which is built on a plan entirely novel in this section, and to the efficiency of which Mr. Harvey, the General Agent for Maryland, Virginia and North Carolina, has many testimonials. It will be seen that the Gunpowder Farmer Club intend giving it a thorough test, having already made a preliminary trial of it at the last meeting.

Rationale of the Action of Lime.

Editors American Farmer:

I think the following extract from an article by Prof. Bartlett, in the *Journal of Applied Chemistry*, will help some of your readers to understand the action of lime on the soil.

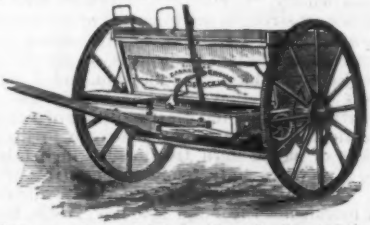
G. F. N.

"Lime answers two great purposes for nourishment: *First*—It disposes certain insoluble bodies to form, by their decomposition, soluble compounds; and, *secondly*, it prolongs the action and nutritive virtue of soft and insoluble animal and vegetable substances beyond the time they would continue to act if they were not made to enter into combination with the lime.

"From this statement the agriculturalist can draw some practical conclusions in regard to the uses of this substance, and the manner in which it should be employed in order to have the results arising from its application conform to those which have been produced by enlightened experiments.

"Lime is acknowledged to be specially useful upon fallow lands which are broken, upon sward lands and those of a turfy nature, which are to be put in a fit state for cultivation. In all these cases there exists in the land large quantities of roots, which, by the application of lime, may be made the better to serve for manure by the solubility it will give to the new compound formed by them; but to produce this effect the lime must be thoroughly mixed with the soil."

McGinnis' Improved Lime-Spreader.



This machine, which is advertised in this issue, we are informed has been very much improved. It is now so constructed that there is no clogging when damp lime is spread. It is made some 200 pounds lighter, and the wheels having been enlarged, the draft is very materially lessened.—Thorough tests in the field have fully demonstrated, it is said, the value of these improvements. The price, it will be seen, has, at the same time, been reduced.

A grange of the Patrons of Husbandry was organized at Snow Hill, Worcester county, last month, and the following officers elected: Robert S. Todd, Master; Isaac Conner, Overseer; Geo. W. Purnell, Lecturer; Thomas H. Parker, Steward; George Hayward, Assistant; James D. Hack, Secretary; James S. Jones, Treasurer; Alfred J. Townsend, Chaplain; Edward Holston, Gatekeeper; Mrs. R. S. Todd, Ceres; Mrs. C. J. Hack, Pomona; Mrs. Rebecca Townsend, Flora; Mrs. George Hayward, Lady Assistant.

About Canes.

By a singular oversight of our own, we neglected in our April issue to supply an omission in the report therein made of the meeting of the Gunpowder Farmers' Club. Referring to the presentation to the Secretary, as a mark of the appreciation in which he is held by his brother members, of a very handsome and valuable cane, our correspondent—the Secretary himself—from modesty, we suppose, neglected entirely to give the name of the recepient of this gift.

It therefore devolves upon us to supply the deficiency in the record and to state that the efficient secretary, to whose energy and capacity the club owes so large a measure of its success, as well as the correspondent of the *Farmer* to whom we and our readers are indebted for the succinct reports of its meetings, is *Mr. Thomas Gorsuch.*

We must also add that the practical and well-digested address on Manures, given in the last report without the name of its author, was also the production of Mr. G., who is as careful and exact as an observer as he is correct and clear with his pen.

This allusion to the *cane* brings us to a personal incident, which we will, we think, be excused for noticing here, and which we introduce by giving the following letter:

Samuel Sands, Esq.

My dear Sir—Having passed that boundary in the journey of life marked by the third score, I daily experience the aid of a substantial staff, in my walks among the fruit trees of Riverside, and thinking that one, somewhat after the style of my own, might be of use to the still active limbs of the Old *American Farmer*, in remembrance of the pleasure and profits of over forty years communion, I tender this home-made cane, the off-shoot of a pear tree, with a head the effigy of a favorite old setter, carved out of a peach-tree knot in idle moments, when it was pleasant to whittle and to think.

It is no fancy affair, with costly mountings like those twirled by swells who promenade your fashionable streets, but rustic and plain, without anything to give it value; yet, it may still be useful to the editor, in giving a sharp blow to the intrusive *puppy*, or to the pomologist in gathering fruit that would be otherwise out of reach. May you live to wear it to a short stump, gathering and enjoying the fruits of a life well spent, in promoting the agricultural and horticultural interests of our dear old State. Respectfully, an old friend, EDWD. WILKINS.

Riverside, April 3d, 1875.

Of course the stick which the senior has been wearing was more for purposes of ornament than use, but he gladly replaces it by the one wrought by the hands of his old friend. On the day he assumes it and writes this—April 10th—he enters his 76th year, and thinks he is entitled to carry the cane for any of the purposes named by the donor.

Sales of Short-horns.

Mr. C. E. Coffin, Muirkirk, Md., has sold Lord Abraham, Portulacca and b. c., Maiden and b. c., to A. Crane, Durham Park, Kas.; and Nellie, Muirkirk Lassie, Muirkirk Lassie 3d, Muirkirk Lassie 4th, to O. F. Bresee, Rose Hill, Orange co., Va.

[*From the Philadelphia Commercial and Manufacturers' Gazette.*]

The Manufacture of Bone Phosphate.

Agriculture is attracting a greater amount of attention from men of means and scientific attainments, as each year rolls by; and as the capacity and resources of the soil become more fully developed, the value of fertilizers become more apparent, and the demand for them increases from year to year. The necessity of having a greater amount of this material than is furnished by the barn-yard and stable, has called into existence numerous manufactured fertilizers, some of which are extremely valuable, while others have proven utterly worthless and have become obsolete. There are a few, however, that have stood the test for years, and are now as indispensable to the farmer or gardener as the seeds he plants.

Among these, there is one which during the thirty years it has been in use all over the United States and Canada, has never failed to produce the desired result, thereby proving itself to be the best manufactured fertilizer in the country and probably in the world. We refer to COE'S ORIGINAL AMMONIATED BONE PHOSPHATE.

This widely known and high-prized fertilizer was originated or invented by

MR. ANDREW COE,

who commenced its manufacture in Middletown, Conn., in the year 1845, and has continued the business for the thirty years intervening between that date and the present writing. He is now manufacturing in the city of Baltimore, his office being at No. 172 West Pratt street.

About the same time or soon after Mr. Coe commenced business in Middletown, another gentleman commenced to manufacture a species of phosphate in New York city, but while that sank into comparative disuse in a few years, the article originated and manufactured by Mr. Coe is to-day in the front rank of the leading Bone Phosphates in general use.

These two articles were the first of the kind ever manufactured or used in the United States, and the fact that while one is nearly out of use and out of memory, the other is more highly prized by those who use it than ever, is a valuable commentary upon its superior excellence and upon the honor of the man who will never take advantage of its good name to deteriorate its quality in order to reap a greater benefit at the expense of the consumer, but rather strives to improve it as the years pass by.

The rapidity with which this phosphate grew in public favor increased the demand to such an extent that in 1852 Mr. Coe was obliged to remove his works to the city of Boston, in order to more readily obtain the requisite materials

and facilities for its manufacture. Subsequently he established works in Canada in order to introduce it to the agriculturists of the provinces and test its beneficial action upon that soil. The same results were met with as everywhere in the United States.

Whatever the character of the soil may be, the beneficial action of the phosphate upon it is quick and lasting.

Mr. Coe has in his possession numerous letters and testimonials from the leading agriculturists and chemists of this country and Canada, which he has received from time to time during the thirty years it has been manufactured and used, all speaking in the highest terms of its superior excellence as a fertilizer. It is especially adapted to the soil of Maryland, as is demonstrated by the increasing amount used from year to year, and by the unnumbered and voluntary testimonials Mr. Coe is daily receiving from the leading farmers in the State. The late Dr. Piggot, of Baltimore, in his report of an analysis of the phosphate, says: "I have known your preparations for a number of years. Before the war I was employed to examine them for the State Agricultural Chemist the object being to determine if they were kept up to standard. They stood the test admirably, being remarkable for their uniformity from year to year. Of late years I have made numerous analyses of your phosphates, and can say from actual results that it has been decidedly improved."

Prof. P. B. Wilson, Analytical and Consulting Chemist and Metallurgist, of Baltimore, says: "It contains all the essentials of a first-class fertilizer, and can only add, that I am sure it will continue to hold the high estimate that farmers have so deservedly placed upon it." Mr. L. W. Gosnel, has thoroughly tested it, and finds the benefits arising from its use to be from 30 to 38 per cent. greater than ony other used by him.

Were it necessary, we could fill column after column with extracts from testimonials received by Mr. Coe from leading agriculturists in almost every cultivated portion of the continent af North America, but we have quoted sufficiently already to demonstrate its rare and unsurpassed merits.

Before concluding this article, we wish to say a few words upon our personal experience in the use of this phosphate. It was our good fortune to spend our boyhood days upon our father's farm among the hills of New England. We think we are safe in saying that our honored parent was one of the most practical farmers in our native State. By a series of thorough tests and experiments, he became assured of the superior fertilizing qualities possessed by Coe's phosphate, and for many years used it to the exclusion of all other manufactured fertilizers. We also enjoy the personal friendship of Mr. Coe, as well as an acquaintance with the virtues of his phosphate, and can conscientiously and unqualifiedly recommend both to the confidence of our numerous readers. Mr. Coe's office is located at No. 172 West Pratt street, Baltimore, where he can be addressed for further information. He is not only thoroughly master of his business, but a gentleman at all times, and a favorite with his hosts of friends and patrons.

True Bird Guano.

Messrs. Baugh & Son offer a true bird guano for $30 per ton of 2,000 pounds. It is hardly necessary to say the known standing of Messrs. Baugh & Sons is a full guarantee to the public of the genuineness of the quality of this guano. It is imported into the United States by Mr. B. F. Folsom for Messrs. Bough & Sons, and is known to possess fertilizing properties of a high order.

It has been extensively used, and by experimental test fully measures up to the high standard which Professor Liebig accords to it in his analysis. The particulars in detail are to be found in another column over the signature of Messrs. Baugh & Sons. We believe we are herein giving information to the planting interests of the country for which we will receive their very cordial approbation.

One essential particular which characterizes the Estrella Guano is its soluble nature, which at once incorporates with the soil and is taken up by the growing crops.

Don't fail to try a few bags, at least, of the Estrella.—*Baltimore Herald.*

Baltimore Markets, April 29.

The quotations below are Wholesale Prices.

Breadstuffs.—*Flour.*—Market quiet and steady. Quotations are as follows: Howard St. Super, $4.25@4.75; do. Extra, $4.87@5.25; do Family, $5.50@6.50; Ohio and Indiana Super, $4.25@4.75; do. Extra, $4.87@5.25; do. Family, $5.37@6.50. City Mills Super, $4.00@4.50; do. low to medium Extra, $4.87@5.50; do. Rio brands do. $6.00@6.50; City Fancy brands, $8.25. Fine flour, 3.75; Rye flour, $5.35@5.75; Corn Meal, city, $4.25; Western, $3.75@4.00.

Wheat.—Demand light, but prices firm. We quote Southern white at 138 cents; do. good to prime red, 130@135 cents; do. amber, 140@144 cents; Western red, good to prime, 133@135 cents.

Corn.—Quiet and steady. Southern white, 91@92 cents; do. yellow, 90 cents; Western mixed, 88@89 cts.

Oats.—Dull. Sales of Southern at 75@78 cents.

Rye.—Quiet and quoted nominal at 112@115 cents.

Cotton.—Inactive, but prices maintained. Quotations: Middling uplands, 15¾@16 cents; low middling, 15¼ cents; good ordinary, 14¾ cents.

Hay and Straw.—Hay in good demand. Clover, $15; mixed $16@20; good to prime Timothy, $20@22; choice do. $23@24. Oat Straw, $14; Rye do. $13; Wheat, $12.

Mill Feed.—Western Bran $24@26; do. Shipstuff, $28 per ton. City middlings, $28; do. Brownstuff, $30 per ton.

Provisions.—Market reported strong but quiet. We quote Bulk Shoulders 9¾ cents; clear-rib Sides 12¾ cents; Bacon Shoulders, 10 cents; clear-rib Sides, 13¾ cents. Hams, 14@15 cents. Lard, 16¼ cents. Mess Pork, $23 per bbl. *Butter.*—Receips light, but in demand. New York State, new, 27@30 cents; Western tubs, choice to extra, 20@25 cents. Western rolls, 20 cents. *Eggs* are quoted at 14@15 cents for fresh per dozen.

Rice.—Rangoon, 6¾. Carolina, 7¼@7¾.

Salt.—Liverpool, Fine, $2.10@2.15; Ground Alum, $1.20@1.25 per sack. Turks Island, 35@40 cents per bushel.

Whiskey.—116@117 cents.

Tobacco.—Receipts of Maryland for a week past have been large, but of other kinds light. We quote Maryland, frosted common, $6.50@7.50; sound common, $7.50@9.00; medium, $8.50@9.50; good medium, $9.00@10.00; leafy brown, $10.00@13.00; fancy, $20.00@30.00. Virginia common to good lugs, $9.50@12.00; common to medium leaf, $10.50@14.00; good to fine, $14.50@18.00; selections, $20.00@25.00.

NEW ADVERTISEMENTS.

George G. Lobdell—Public sale of Horses.
Danner & Newman—McGinnis Improved Lime-Spreader.
W. D. Brackenridge—New Hardy Plants.
Keith & Kelso—Lawn Mowers.
Bush & Son & Meissner—Grape Catalogue.
W. D. Macy—Rubber-lined Collars.
B. T. Hynson & Sons—Paper Hangings and Curtains.
E. Baylies—Masillon Harvester.
Robert Turner & Son—Fertilizers, &c.
B. M. Rhodes & Co.—Orchilla and Curacoa Guanos.
Piedmont Guano and Manufg., Co.—Superphosphates.
R. J. Baker & Co.—Bone Dust and Fertilizers.
Walter Hammond—Superphosphate.
John M. Rhodes & Co.—Standard Manures for all Crops.
Hugh Sisson—Marble Work of all kinds.
Grover & Baker S. M. Co.—Sewing Machines.
W. W. Giles—Well Augers.
R. Sinclair & Co.—Agricultural Implements.
Thos. Norris & Son—Agricultural Machinery.
J. Bolgiano & Son—Seeds.
J. M. Sudsburg—Butter Prints.

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SECOND ANNUAL SALE
OF
HORSES,
At MINQUADALE FARM,
TWO MILES FROM WILMINGTON, DEL.

ON TUESDAY, MAY **18th**, 1875,
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The get of my late Stallion "Harbinger," who was by Rysdyk's Hambletonian, dam by George M. Patchen, and who promised to be very fast. His colts are good size, some large, and give indications of speed. Also, the get of my thoroughbred Stallion "King Alfred," who has trotted in three minutes, and who has more blood of Diomed than any horse known to me. His colts are vey stylish, of good size, docile, and some, I think, will make trotters. The mares cannot fail to cross well with Hambletonians.

Also, the get of Geo. M. Patchen,—Delaware Patchen, Slasher (thoroughbred,) Vermont Hambletonian, Abdallah Chief, etc., and several brood mares who have a large infusion of Messenger blood.

Catalogues, giving pedigree, will be sent on application.

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Improved McGinnis Lime-Spreader.

Warranted to spread evenly any desired quantity per acre of fine and reasonably dry fertilizer. It is an improvement on the Thornburg & McGinnis Spreader, retaining the oscillating and patented features of that, and greatly improved in simplicity, and perfectly adapted to regulate the sowing of any desired quantity, and to prevent the clogging of damp material.

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$25 PER TON---CASH.

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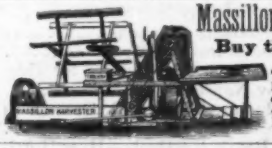

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It is at all times open to the thorough Inspection of all interested, who have every opportunity afforded them of knowing that in purchasing from us they get exactly what they pay for. Our prices are now as follows:

Delivered at all Stations on P.W. & B. R. R., including Balto. } **GROUND BONE $12, BONE MEAL $11.**

☞ We will refund $1 per ton for return of bags within thirty days, free of cost to us. *We make no PHOSPHATES; our Mill being devoted exclusively to the business of Pulverizing Bone.*

Samples and Circulars sent on application.

THOS. WARING & BRO.

ap-tf COLORA, CECIL CO., MD.

IMPORTANT.

TRUSSES, SHOULDER-BRACES, ELASTIC STOCKINGS, SUSPENSORIES, SYRINGES, INHALERS, &c. HYDROMETERS, THERMOMETERS, MICROSCOPES, STEREOSCOPES, MAGNIFYING GLASSES, &c., &c.

No. 135 W. Fayette St., (above Park St.)
BALTIMORE, MD.
d-1y **E. V. DAILY.**

THOS. NORRIS & SON,

141 W. PRATT ST., BALTIMORE.

Offer for sale the following

FIRST-CLASS

Superior Machinery and Implements

Aultman & Taylor's Threshers and Cleaners,

Unquestionably *the* machine of the day.

Westinghouse Vibrating Thresher & Cleaner

A well-known machine of good reputation.

Threshers and Cleaners and Plain Threshers

Suitable for small Farmers.

HORSE POWERS,

Various sizes, Best in Use.

STEAM ENGINES FOR THRESHING MACHINES,

Wood's Mowing & Reaping Machines.

BICKFORD & HUFFMAN'S GRAIN DRILLS,

Malta Wheel Walking Cultivator,

An *invaluable* Implement to the Farmer. Pays for itself in one season.

CUCUMBER PUMPS,

With solid Cast Iron **Porcelain-Lined** Cylinder. Very popular wherever introduced.

SCHUTTLER'S FARM & FREIGHT WAGONS.

HILL'S HOG RINGS, RINGERS & TONGS

To prevent Hogs from Rooting.

In addition to the above **Specialties,** we keep on hand every variety of useful **Farming Implements** and **Tools** to be found in a first-class Agricultural Implement House.

Field and Garden Seeds, Pure Raw Ground Bone and Bone Meal and other Fertilizers.

THOMAS NORRIS & SON,

my **141 Pratt street, Baltimore, Md.**

R. SINCLAIR & CO.,

MANUFACTURERS OF

Agricultural Implements

AND

MACHINERY.

Also, Growers and Importers of

Garden and Field Seeds, &c.

DEALERS IN FRUIT TREES AND PLANTS.

We would call the special attention of our friends and customers to the following first-class Machinery and Implements, which we guarantee to be equal to any article of the kind made in this country, being all of our own manufacture. We name, in part, such Machinery and Implements as are required by the Farmer and Planter for the Spring and Harvest Season, viz:

SINCLAIR'S PATENT MASTICATORS, of which we make four sizes, viz: Hand, Hand and Power, and Steam and Water Powers. These machines are the best in use for the purpose of cutting up Corn Stalks and Sugar Cane.

SINCLAIR'S PATENT SCREW PROPELLORS, HAY, STRAW AND FODDER CUTTERS, of which we make six (6) sizes, viz: Two light sizes, for hand power; two medium sizes, which can be run by hand or power, and two sizes for horse power. All of the above-named Cutters are our own patents and manufacture, and as such we can recommend them. Our 6-inch Small Hand Cutter is considered to be the best cheap Cutter made in this country. Price, $16.00.

READING'S PATENT HORSE-POWER CORN SHELLER, with and without Cleaning Attachment. The Attachment is Sinclair & Co.'s Improvement.

VIRGINIA HAND AND POWER SHELLER, with and without Cleaner. The Cleaner to this Sheller is also Sinclair & Co.'s Improvement.

DOUBLE AND SINGLE IRON SPOUT DOUBLE-GEARED HAND SHELLERS, WOOD-SPOUT HAND SHELLERS, several kinds.

SINCLAIR & CO.'S SOUTHERN IRON-BRACE GRAIN CRADLES, with Four, Five and Six Fingers. Considered the best Cradle made in this country.

SCULLY'S CELEBRATED CIDER AND WINE MILL AND PRESS, two sizes. They speak for themselves; in fact, they have no equals.

"ANDERSON'S" AGRICULTURAL STEAMER, for Cooking Food for Stock. The best in use.

PELTON PATTERN OF HORSE POWERS, several sizes.

"CARDWELL'S" PATENT THRASHER AND CLEANER, two sizes.

THRASHERS AND STRAW CARRIERS, several sizes.

BUCKEYE REAPERS AND MOWERS, all the different sizes and styles.

ADVANCE MOWERS, HORSE WHEEL-RAKES, HAY TEDDERS, HORSE HAY-FORKS, SULKY CULTIVATORS, PLOWS, HARROWS and CULTIVATORS, and all kinds of

FARMING AND HORTICULTURAL TOOLS.

Address, R. SINCLAIR & CO.

may-1y. *62 Light street, Baltimore.*

RHODES'
Standard Manures.

PREPARED FOR ALL CROPS.

Jno. M. Rhodes & Co.,

may-3m 80 SOUTH STREET, BALTIMORE.

POUDRETTE.

AMERICAN AMMONIATED POUDRETTE

Manufactured and Sold for 21 Years.

The Planter's, Farmer's, and Gardener's Friend.

BETTER THAN SUPER-PHOSPHATES & ONE-HALF THE COST.

The only Test, a Trial.

In fine dry condition for drilling. The seed will receive no injury from contact with the Poudrette. **No Worm will stay in a Hill of Corn or Drill of Seed where the Poudrette is placed.**

The **American Ammoniated Poudrette,** if used even to excess, never changes the agreeable flavor of fruits leaves or roots, but develops all their aromatic properties.

Price $25 per ton, 2,000 lbs.

Packed in good strong bags, 10 bags to the ton. Delivered free of charge to any of the railroad or steamboat landings in Baltimore. Orders promptly filled and respectfully solicited.

LIBERAL DISCOUNT TO DEALERS. Address

LOUIS STOW, Sole Agent for Maryland and Southern States. Office: **28 Bowly's Wharf,** Baltimore, Md., P. O. Box, 387. W. S. OFFUTT, Salesman. ap-3m

EDWD. J. EVANS & CO.

WHOLESALE AND RETAIL

NURSERYMEN AND SEEDSMEN,

YORK, PENNA.

A complete assortment of Standard and Dwarf FRUIT TREES, SHADE and ORNAMENTAL TREES, EVERGREENS, Hardy Ornamental and Climbing SHRUBS, GRAPES, SMALL FRUITS, HEDGE PLANTS, &c.

Garden and Flower Seeds, Grass Seeds, Seed Potatoes, Seed Corn, Oats, Wheat, Hedge Seeds, &c., and HORTICULTURAL GOODS of all kinds.

☞ Descriptive Catalogues and Price Lists mailed to applicants. ap-1y

LINTON & CO.

Manufacturers of

MACHINE-MADE POTS.

Pots for Propagating Cotton Plants for Early Planting, Pots for forcing Jute, also Turpentine Pots.

These Pots are made with the most approved machinery from tempered clay. The quantities made by us per day are from 3,000 to 6,000.

We have always on hand a large assortment of FLOWER POTS. Having improved facilities for the manufacture of FLOWER POTS, and giving the same our entire attention, we are enabled to supply the market with an article which, for neatness, durability and cheapness we defy competition.

These Pots can be safely shipped to any part of the United States in lots to suit; also, URNS, BIRD BOXES and HANGING BASKETS.

LINTON & CO.

apr-1yr *Corner Lexington and Pine Sts., Baltimore, Md.*

BALTIMORE

RETORT AND FIRE BRICK WORKS.

GEORGE C. HICKS & CO.

MANUFACTURERS OF

CLAY RETORTS, TILES, FIRE BRICK,

VITRIFIED STEAM-PRESSED

Drain and Sewer Pipe, Stove Lining, &c.

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ESTABLISHED 1828.

Clairmont and Firley Hall Nursery,

BEL-AIR ROAD, BALTIMORE COUNTY.

1.000.000 FRUIT AND ORNAMENTAL TREES, FOREIGN AND DOMESTIC, FOR SALE.

100.000 STANDARD APPLE TREES OF DIFFERENT VARIETIES AND SIZES Prices from $5 to $20 per hundred, according to size and quality of stock.

50.000 STANDARD AND DWARF PEAR TREES OF VARIOUS SIZES AND QUALITIES. 15,000 of these must be sold to clear leased land.

THE FINEST EVERGREENS IN THE COUNTRY—Norway Spruce, Hemlock Spruce, Silver Fir, American Arbor Vitæ, Golden Arbor Vitæ, Siberian Arbor Vitæ, Hovey's Golden Arbor Vitæ, Thuja Ericoides, Thuja Compacta, Thuja Globosa, Thuja Pyramidalis, Irish and Chinese Juniper, Irish Yew, Magnolia Grandiflora, &c.

SHADE TREES FOR AVENUES.

Silver Maple, Sugar Maple, Scarlet Maple, Ash Leaf Maple, English Ash, White Ash, Black Ash, Tulip and Silver Poplar, Weeping Elm, American and English Linden.

Hardy Flowers and Shrubbery.

Grape Vines, Currant and Gooseberry Bushes, Blackberry, Strawberry and Raspberry.

☞ A large Variety of IMPORTED TREES, PLANTS, AND SHRUBBERY just received.

☞ **Give us a Call and Examine our Stock before Purchasing.**

NURSERY can be reached by GAY STREET LINE OF CARS, from Baltimore.

WM. CORSE & SON,

ap-1y **P. O. Box 248, BALTIMORE, MD.**

HEAD-QUARTERS FOR VEGETABLE PLANTS.

Cabbage Plants in variety, Lettuce Plants,
Egg Plants, Celery Plants, Tomato Plants,
SWEET POTATO PLANTS.

Sent safely by express to any part of the country. Prices on page 36 of our Catalogue for 1875.

W. F. MASSEY & CO.

ap-3t **Chestertown, Md.**

JOHN C. HACHTEL & CO.

MANUFACTURERS OF

HACHTEL'S AMMONIATED SUPER-PHOSPHATE,
PURE DISSOLVED BONE, and TOBACCO FERTILIZER.

ORCHILLA GUANO, AA—rich in Bone Phosphate and Alkaline Salts..$30
MEXICAN GUANO, AA..... 30

☞BONE MEAL, BONE DUST, AND GENUINE LEOPOLDSHALL KAINIT.

JOHN C. HACHTEL & CO.

ap-3m **14 Bowly's Wharf, Baltimore, Md.**

S. COTTINGHAM, Jr. F. C. BRYAN.

S. COTTINGHAM, Jr. & CO.

DEALERS IN

AGRICULTURAL IMPLEMENTS

Machinery, Horticultural Tools,

THE WISNER IMPROVED

Self-Discharging Horse Hay Rake,

GARDEN AND FIELD SEEDS,

WARRANTED FRESH AND GENUINE, of the latest and best varieties, having no old stock on hand.

GUANO & FERTILIZERS

Of the leading varieties,
Horner's, Turner's and others.

We respectfully call the attention of FARMERS, GARDENERS and PLANTERS to our NEW and complete stock of IMPLEMENTS, SEEDS, &c., viz: The **Geisers Improved Thresher and Cleaner,** Reapers and Mowers, Horse Powers, improved, Patent Screw Propellors and Masticators for cutting Hay, Straw and Fodder, Virginia Corn Shellers, Double and Single-Spout Corn Shellers, Cider and Wine Presses, Bickford & Huffman Grain Drill, Buck-eye Sulky Cultivator. The Southern iron-brace Grain Cradle, Wheat Fans, Improved Corn Planters, Lawn Mowers, Plows, Harrows, Cultivators, and all kinds of Farming Implements, &c.

Address, S. COTTINGHAM, Jr. & CO.

ap-6m **No. 38 N. Paca Street, Baltimore, Md.**

BUCKEYE MOWER AND REAPER,

SWEEPSTAKES THRESHER AND CLEANER.

The Truth is mighty and will prevail!

28,000 Buckeye Mowers and Reapers,

And 1,500 Sweepstakes Threshers

Sold in the United States alone during the season of 1874.

Farmers, do you want any more emphatic endorsement than this of the superior merits of these machines? Do not allow yourselves to be humbugged by the extravagant representations of agents for other machines.

The BUCKEYE and the SWEEPSTAKES are the STANDARDS, and when you buy either or both of them you are sure to get your money's worth, and to have machines that will last you, with proper care, 15 years and probably longer

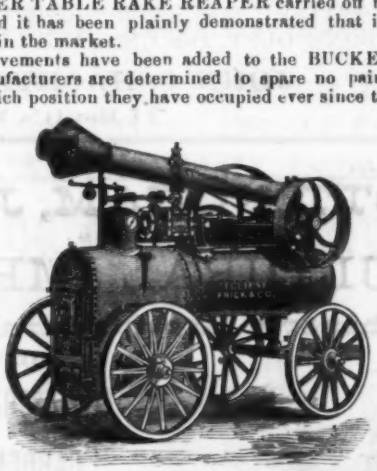
The BUCKEYE MILLER TABLE RAKE REAPER carried off the highest honors at almost every field-trial of 1874, and it has been plainly demonstrated that it is the simplest, best and easiest Reaper to bind after in the market.

Several valuable improvements have been added to the BUCKEYE and SWEEPSTAKES since last harvest, and manufacturers are determined to spare no pains or expense to keep them ahead of all competitors, which position they have occupied ever since their first introduction.

ECLIPSE

Agricultural

ENGINE.



Best, Cheapest,

and most

Economical Engine

in the Market.

Awarded first Premium at Cincinnati Exposition, 1874; Maryland State Agricultural Society, 1874, and Silver Medal at Virginia State Agricultural Society, 1874.

Thoroughly warranted in every respect, and especially adapted to wants of Threshermen, Sawing Lumber, Farm Work &c.

Circular Saw Mills, Hagerstown Wheel Horse Rake,

Perry's New York Hay Fedder, Lockwood Steel Hoes,

Mill Stones, Bolting Cloths, Eureka and other Smut Machines,

Belting, Spindles, Mill Picks, Portable Farm & Grist Mills, &c.

JOSHUA THOMAS,

53 Light St., Baltimore, Md.

☞ **Prices and Descriptive Circulars Furnished on Application.** ap-

GARDEN & FIELD SEEDS.

GUANO, BONE, PLASTER AND FERTILIZERS. CLOVER, TIMOTHY, ORCHARD, HERDS, KENTUCKY BLUE, AND OTHER FIELD-GRASS SEEDS. LAWN AND ORNAMENTAL GRASS SEEDS.

THE PREMIUM

BUCKEYE Self-Discharging HORSE RAKE.

Manufacturers of and dealers in

AGRICULTURAL AND GARDEN IMPLEMENTS OF EVERY DESCRIPTION.

We invite the attention of Farmers, Gardners and others to our complete stock of Implements, Seeds, &c., in which will be found all articles pertaining to our business Our GARDEN SEEDS are of the latest and best varieties, all of which are fresh and true to name.

In our stock of Implements we include an assortment of the best in the market, among which are Reapers and Mowers, Stoner's Patent Wheat Fan, guaranteed equal to any in the market—price $35.00; Buckeye Self-Discharging Wheel Horse-Rake, Hand Delivering Wheel Rakes, Bullard's Hay Tedder, Hagerstown Grain, Seed and Fertilizing Drill, Empire Thresher and Cleaner, Champion Rye Thresher, Pelton and Railway Horse-Powers, Double Harpoon Hay Fork, Lawn Mowers—price $20.00. Cider Mills and Presses, Maryland Hay, Straw and Fodder Cutter—9, 11 and 16 in. knife. Pioneer Stump Puller—price $50.00. Cucumber Wood Pump—price $5.00. Knives and Sections for Mowers and Reapers, Steel and Cast-Iron Plows, Plow Castings, &c.

Many of the above articles took the First Premium at our Maryland State Fair in October, 1874.

GRIFFITH & TURNER,

mh-1y 41 and 43 N. Paca Street, BALTIMORE, MD.

BONE DUST - - BONE FLOUR!

ANAYSIS.

Ammonia	4.37
Bone Phosphate of Lime	44.56

WARRANTED CHEMICALLY PURE

Superior in quality, and in finer mechanical condition than any other manufactured in this vicinity.

PRICE, - - - $43 Per Ton in Bags.

J. J. TURNER & CO.

mh- *42 Pratt St., Baltimore, Md.*

NEW YORK

ONE PRICE

Cash Clothing House!

184

WEST BALTIMORE STREET,

BALTIMORE, MD.

BRANCH OF

ROGERS, PEET & CO.

487 Broadway, New York,

Manufacturers, Jobbers and Retailers of

FINE CLOTHING

For Men's, Boys' and Children's Wear.

Goods Retailed at Wholesale Prices.

☞TO TOBACCO PLANTERS.

1858

1875

Seventeen Years' Experience

By Planters of Maryland and Virginia in growing Tobacco has convinced the most skeptical that

"EXCELSIOR"

HAS NO EQUAL

in growing and maturing that crop. It is now their unanimous opinion that "from the application of EXCELSIOR the crop is heavier, of finer quality, cures earlier, and is not so liable to suffer drought, as from the use of Peruvian Guano."

☞We refer to every Planter in Maryland.

Uniformity of quality guaranteed by the Manufacturers.

PRICE $55 PER TON.

J. J. TURNER & CO., 42 Pratt St., Baltimore, Md.

To Corn Growers & Tobacco Planters

J. J. TURNER & CO.'S

AMMONIATED

☞BONE SUPER-PHOSPHATE.

ANALYSIS.

Ammonia,	**3.30**
Soluble Phosphate of Lime,	**23.91**
Bone Phosphate of Lime,	**3.15**

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates

THAN ANY OTHER FERTILIZER SOLD,

and is made with the same care and supervision as our EXCELSIOR, its only competitor. Uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

☞PRICE $45 PER TON.☜

J. J. TURNER & CO.

42 Pratt Street, Baltimore.

BOUDREN'S PATENT

Price $6 each by Express, C. O. D.

With full privilege of examination before payment.

Adjustable Dash Lamp

FOR NIGHT DRIVING.

FOR THE USE OF

DOCTORS, PRIVATE GENTLEMEN, MARKET GARDENERS, LIVERY STABLE KEEPERS, AND ALL OTHERS HAVING OCCASION TO DRIVE DARK NIGHTS.

Throws a powerful light **100 Feet Ahead** of the horse. Burns Kerosene, without a chimney, 10 hours after one filling. Fits *any* shaped Dash, or on any vehicle. Splendid Barn Lantern.—also good for hunting. The light is not affected by wind, rain or jolting. Try one and you will be pleased with it. Send for Circular.

White Manufacturing Co.,

Fine Carriage Lamps and Mountings,

STEAM FIRE ENGINE SIGNALS AND SIDE LAMPS,

mh- *BRIDGEPORT, CONN.*

WALL PAPERS and WINDOW SHADES.

☞ The new style of FRENCH GROUND Wall Papers made by **HOWELL & BROTHERS,** are superseding the old style of Blank Papers formerly used. The pores of the Paper being filled with color before the figure is printed on, makes the paper heavier and much more durable. *The price is the same as the old style blanks.*

Ask your Paper-Hanger for it. Samples sent by mail to any Address.

ap-3t **260 Baltimore St., opp. Hanover.**

New Colors of Window Hollands.

Just received by HOWELL & BROTHERS, the new colors **Scotch** as well as **American Hollands** and **Oswego Shade Cloth.** These Goods are of fine texture and superior finish, made and imported expressely for our Retail Trade. Also on hand a fine assortment of Fringes, Tassels, Shade Fixtures, &c.

Workmen sent to all parts of the city to put up Window Shades. Samples mailed by letter if required.

ap-3t **260 BALTIMORE ST., OPP. HANOVER.**

ESTABLISHED 1816.

CHAS. SIMON & SONS,

63 NORTH HOWARD ST., BALTIMORE, MD.

Dealers in

FOREIGN & DOMESTIC DRY GOODS,

would call special attention to their splendid stock of Dress Goods, Linen Goods, Embroideries, Laces, and Hosiery; the best assortment of Mourning Goods in the city.

SAMPLES SENT FREE!

All orders amounting to $20.00 or over, will be sent free of freight charges by Express, but parties whose orders are not accompanied by the money, and having their goods sent C. O. D., must pay for return of the money.

EDWARDS'

SUPER-PHOSPHATE.

THE CONCENTRATED MANURE.

This celebrated Fertilizer always produces full crops of WHEAT, RYE, OATS, TOBACCO, COTTON, CORN, POTATOES or any other crops; on the very poorest land, when used according to our directions, in our Super-Phosphate Book.

☞ CASH PRICE $50 PER TON 2,000 LBS., in 10 bags; price Single Bags, $5 each.—Delivered on cars or boats in Baltimore, free of drayage, if bought in lots of a ton at one time.

Manufactured by **E. G. EDWARDS & CO.,**

No. 21 Cheapside, Baltimore, Md.

N. B.—Our Phosphate Book, with Certificates from prominent farmers, sent free on application.

ap-3t

ESTABLISHED 1837.

My Illustrated Catalogue of New Plants for 1875 *mailed free to all.*

APPLICANTS ADDRESS,

ROBT. J. HALLIDAY,

BALTIMORE.

Green House Plants

OF ALL KINDS.

ROBERT J. HALLIDAY'S Seed Store,

No. 230 West Baltimore Street, corner of Charles.

Green House Department, Pennsylvania Ave. and Dolphin St.

☞ SEND FOR CATALOGUES.

ap-3t

Pure Bone Dust.

BONE DUST!

PURE BONE DUST!

To the Consumer as well as the Trade Generally.

We have now completed

Our New Factory,

and with the addition of the latest and most approved machinery are enabled at the shortest notice to furnish in large or small quantities

OUR PURE GROUND BONE,

At the Lowest Market Price.

An experience of more than thirty years in the manufacture of a

SUPERIOR ARTICLE,

(from crude stock gathered daily from the Butchers in this market, with whom we have yearly contracts,) coupled with the fact of our inability, as to former seasons, of filling all orders sent to us, has demonstrated the advisability of our making a considerable outlay so as to meet demands upon us, and think we are now situated to please all that may favor us with a call. Thankful for past favors, we hope in the future to merit a continuance of the same.

Respectfully,

JOHN BULLOCK & SON,

No. 61 South Gay Street,

Mch BALTIMORE, MD.

IRON WIRE for Fencing and Vineyards. Annealed Iron Wire for Baling Hay, &c. Galvanized Wire Clothes Lines.

KEITH & KELSO, Wholesale Agents,

23 & 25 S. Charles Street.

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All kinds of BOOK and JOB PRINTING executed promptly, neatly and accurately. Estimates furnished.
AMERICAN FARMER OFFICE.

Valuable Lands For Sale

IN PIEDMONT SECTION OF THE JAMES RIVER VALLEY.

The subscriber has a large number of **VALUABLE FARMS** on sale in counties of Amherst, Nelson, Albemarle, Fluvanna, Goochland, Powhatan, Cumberland, Buckingham, Appomattox, Campbell and Bedford, embracing the finest lands and mill properties in the State, from $8 to $35 per acre, and in tracts from 50 to 2,000 acres, on easy terms. These lands lay contiguous to railroad and canal, and not over eighteen hours by railroad from New York or eight hours from Baltimore.

A Vineyard of Seven Acres to Lease and put out on shares. Address, with a stamp, or apply in person to

H. MANOAH PRICE,
James River Valley Land Agency,
mh-1y Antioch, Fluvanna Co., Va.

JERSEY (Alderney) CATTLE.

Some imported solid colors and black points. Particular attention given to breeding from best milking families.

SOUTHDOWN SHEEP

Of superior quality, a portion imported in 1874 from William Rigden, one of the most noted breeders in England.

BUCKS, EWES and LAMBS at reasonable figures. Address

J. STRICKER JENKINS,
mh- 18 Second Street, Baltimore.

LEWIS KELLUM. J. H. LIVINGSTON.

L. KELLUM & CO.

Bone, Guano and Seed Depot,

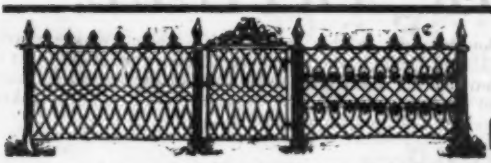
No. 119 HILLEN STREET, Near BELAIR MARKET.

Agents for Lister Brothers' STANDARD SUPER-PHOSPHATE of LIME and GROUND BONE,

At Factory Prices,

And all the Popular Brands of Phosphates of this market constantly on hand.

TIMOTHY, CLOVER and All FIELD SEEDS, also CORN, OATS and MILL FEED.



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AND

ORNAMENTAL WIRE WORKS.

DUFUR & CO.

No. 36 North Howard Street, Baltimore, Md.

MANUFACTURE

Wire Railing for Cemeteries, Balconies, &c.

SIEVES, FENDERS, CAGES, SAND and COAL SCREENS, WOVEN WIRE, &c.
feb-1y Also, Iron Bedsteads, Chairs, Settees, &c., &c.

BONE DUST & BONE MEAL.

"The Standard in America."

Ammonia..... 5 Bone Phosphate of Lime..... 54

$45 Per Ton, in Bags.

MARYLAND SUPER-PHOSPHATE

And Tobacco Sustain.

750 lbs. Peruvian Guano. 1,100 lbs. Bone Dust. 150 lbs. Potash.

$50 Per Ton, in Bags.

DISSOLVED OR VITRIOLIZED BONE,

$48 Per Ton.

No. 1 PERUVIAN GUANO, OIL VITRIOL (warranted full strength), MURIATE POTASH, SULPHATE OF SODA, NITRATE OF SODA, SULPHATE OF AMMONIA,
And other Chemicals for making Super-Phosphates and Fertilizers, at Wholesale Prices.

JOSHUA HORNER, Jr. & CO.

54 S. Gay St., Cor. Chew and Stirling Sts., and 178 Forrest St.

HULL, MATHEWS & CO.

Produce Commission Merchants

FOR SALE OF

Butter, Eggs and Produce Generally

And Dealers in FLOUR, GRAIN and FEED.

AGENTS FOR

Thompson & Edwards' Fertilizers,

je-1y **100 S. CHARLES ST., BALTIMORE, MD.**

GEORGE PAGE & CO.,

Machinists and Founders.

Portable and Stationary Steam Engines and Boilers, Patent Portable CIRCULAR SAW MILLS, Portable Grist Mills, Horse Powers, Leffel's Turbine Water Wheel, &c.

No. 5 N. SCHROEDER STREET, near W. Baltimore street,

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FOR
CORN, OATS, TOBACCO.

Soluble Pacific Guano

Is unsurpassed, as 10 years' experience by the leading Farmers and Planters in the Country abundantly verifies.

JOHN S. REESE & CO.

ap-3m General Agents, BALTIMORE, MD.

MORO PHILLIPS,
Manufacturing Chemist,

MANUFACTURER OF

ACIDS AND CHEMICALS.

MORO PHILLIPS' SUPER-PHOSPHATE, the best Grain and Cotton Producer in the market.
MORO PHILLIPS' PURE PHUINE, the best Fertilizer for Truckers we know of.
MORO PHILLIPS' TOBACCO INVIGORATOR, prepared especially for Tobacco.
SERRANA GUANO, a natural organic deposit.

For Sale at Manufacturer's Depots: { **110 S. Delaware Ave., Phila., Pa.** / **95 South Street, Baltimore, Md.**

AND BY TRADE GENERALLY. ☞ *DISCOUNT TO DEALERS.* apr-1y

MARYLAND POUDRETTE,

☞ RICH IN PHOSPHATES, AMMONIA AND OTHER ALKALINE SALTS, as per analysis, containing in one ton of 2,000 pounds, say

34 pounds Ammonia,
39 pounds Potash,
38 pounds Phosphoric Acid.

Also, LIME, MAGNESIA, and other valuable constituents in smaller quantities. For sale, packed in barrels or bags, $15 per ton, 2,000 pounds, by

HEALTH DEPARTMENT,

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Established] **A. E. WARNER,** [1811.

Manufacturer of

Silver Ware & Rich Jewelry,

English, Swiss and American WATCHES of the Best Makers;
Importer and Dealer in Diamonds, Fine Watches,
Silver-Plated Ware, Table Cutlery, &c.

WEDDING PRESENTS,

Premiums for Agricultural Fairs, Fine Bronzes, Opera Glasses and Shell Jewelry, &c.

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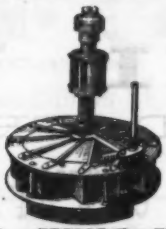

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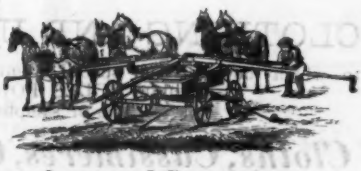

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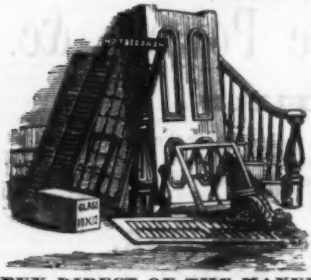

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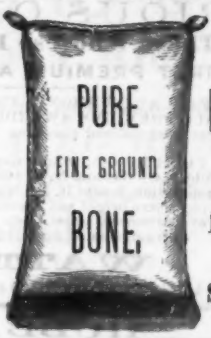

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